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THE OPHTHALMIC RECORD

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The December number of the OPHTHALMIC R[illegible] will contain among others an original article by Howard F. Hansell, M. D., Hysteria or Dissimulation; one by Charles A. Oliver, M.D., Clinical History of a Case of Right Pulsating Exophthalmos; Ligation of Both the Right Common Carotid Artery and the Left Internal Carotid Artery; Accidental Traumatism: Cure; one by N. C. Steele, M. D., When Not to Prescribe Cylinders for Astigmatic Eyes, and When to Prescribe Them for Non-Astigmatic Eyes. There will also appear Editorials, Society Reports, Abstracts of Recent Ophthalmic Literature and Personals, and Items of Interest to the Profession.

THE RECORD particularly desires short practical papers on any subject connected with Ophthalmology. These will be published at as early a date as possible. It is understood that, unless otherwise arranged, original articles, when accepted, are contributed to the RECORD exclusively. Illustrative cuts will be made at the expense of the journal, and proofs for correction will be sent to authors when desired. Reprints with covers will be furnished at cost. The RECORD will be issued monthly, and each number will contain about 54 pages of reading matter.

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TABLE OF CONTENTS.

I. ORIGINAL ARTICLES.

PAGE

I. A New Advancement Operation, *by* **G. C. SAVAGE, M. D.,** *Nashville, Tenn* 515

II. Episcleritis, *by* **DON M. CAMPBELL, M. D., L. R. C. S. Edin.,** *Detroit, Mich.* 517

III. Too Unusual Forms of Keratitis, Probably Rheumatic in Origin, *by* **HOWARD F. HANSELL, M. D.,** *Philadelphia* 522

IV. Notes from the Clinic of Dr. Galezowski, *by* **E. C. ELLETT, M.D.,** *Memphis, Tenn.* Illustrated 524

V. Deficient Dynamics of the Extra-Ocular Muscles, *by* **C. W. LE FEVER, M. D.,** *Philadelphia* 530

II. REPORTS OF SOCIETIES.

I. Colorado Ophthalmological Society 539

II. Section of Ophthalmology, College of Physicians of Philadelphia . 542

III. Report of the Detroit Ophthalmologic and Otologic Club 547

IV. Ophthalmological Society of the United Kingdom 549

III. CORRESPONDENCE.

I. Corrections of the Paper on "Some Forms of Irregular Astigmatism, etc." *by* **F. B. EATON, M. D.,** *San Francsco, Cal.* 552

II. The Terms Antimetropia, Anisometropia and Brachymetropia 552

IV. ABSTRACTS FROM CURRENT OPHTHALMIC LITERATURE.

By FRANK C. TODD, M. D., Minneapolis, and EDWARD A. SHUMWAY, M. D., Philadelphia.

I. For the Extirpation of the Lachrymal Sac 554

II. On Recurrent Formation of Vesicles on the Cornea and Keratalgias After Injuries of the Surface of the Cornea 555

III. Periscopic Lenses 556

IV. The Mental Derangement which is Occasionally Developed in Patients in Eye Hospitals 557

V. Double Optic Neuritis Complicating Whooping Cough 557

VI. On Sclerosis of the Choroid with Secondary Degeneration of the Retina 558

VII. Abducens Paralysis 560

VIII. Eumydrin 561

IX. Primary Atrophy of the Choroid, with Sclerosis of the Vessels, "Atrophia Alba Chorioideæ" 561

X. Concerning Some Modifications of the Operations for Ptosis 562

XI. Stellate Cauterization of the Cornea 563

XII. Intra-Ocular Tuberculosis. Dangers of Enucleation 563

XIII. The Composition of the Aqueous Humor in Cases of Senile Cataract 564

V. NOTES AND NEWS.

I. Personals and Items of Interest 566

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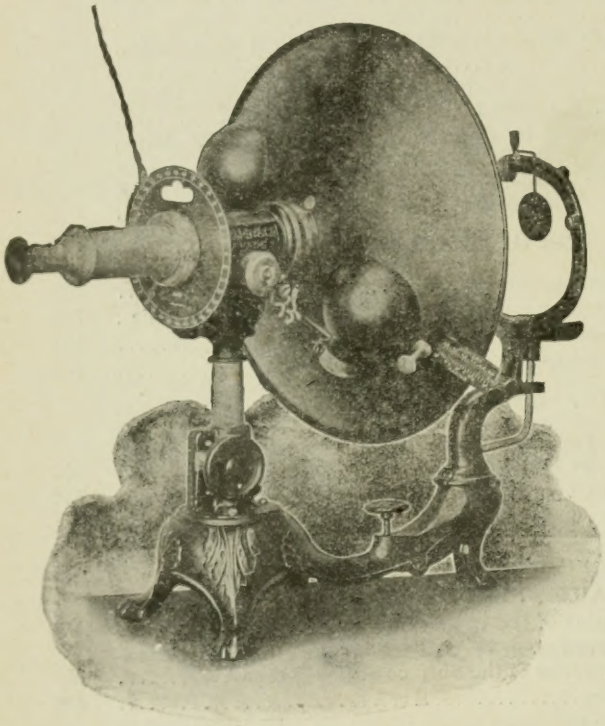

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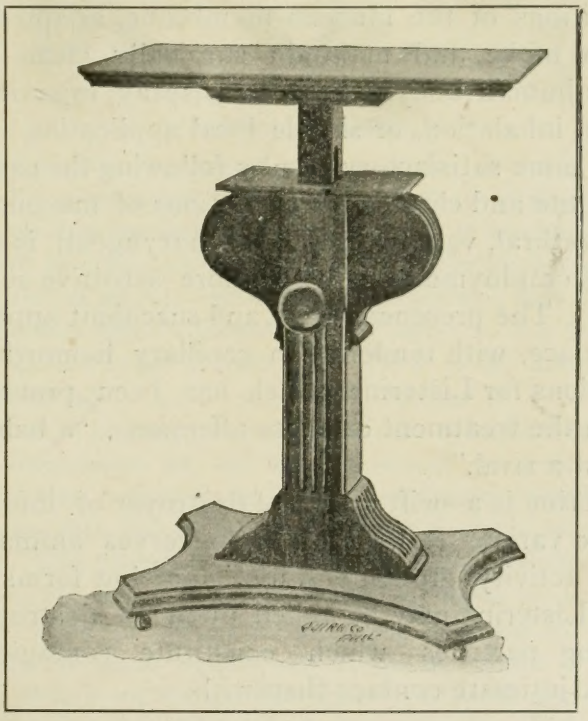

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THE
OPHTHALMIC RECORD
A MONTHLY REVIEW OF THE PROGRESS
OF OPHTHALMOLOGY.

CHICAGO, NOVEMBER, 1903. VOLUME XII. No. 11. NEW SERIES

ORIGINAL ARTICLES.

A NEW ADVANCEMENT OPERATION.

BY G. C. SAVAGE, M. D.,
NASHVILLE, TENN.

The risk attending advancement operations led me, in 1893, to devise the operation of "muscle-shortening" or "muscle-tucking," an operation that has been generally adopted. It has been claimed, occasionally, by others, in words like these: "For the method of doing *my operation* see vol.— p— of —" some journal; when the writer would have done himself greater credit by saying: "For the method of using *my instrument* in folding the muscle in the muscle-tucking operations see vol. — no. — of —" some Journal.

Since there are many cases in which the full effect desired can not be accomplished by the muscle tucking or shortening, although an ideal operation, an advancement must occasionally be done. I am sure that I have now devised the ideal advancement operation. This operation is done without cutting the tendon, and therein lies my claim. I may also base my claim in part on the method of taking the scleral stitches. The following are the steps of the operation which requires only a local anesthetic:

(1) Make a cut through the conjunctiva parallel with the plane of the equator, a short distance behind the insertion of the tendon. This cut should not include the capsulé of Tenon.

(2) An opening should be made through the capsulé of Tenon just below the border of the tendon, through which should be passed, beneath the tendon, a large strabismus hook. When the point of this hook reaches the structures above the tendon a snip should be made in the capsule so as to allow it to emerge. In this way the hook is given a better hold beneath the tendon.

(3) The tendon is now lifted by the hook so as to make the taking of the stitch through the muscle and capsule easy, without

risk of dipping the needle into scleral structure. The stitch is taken as in plain sewing and the puncture and counter-puncture should be one-eighth to three-sixteenths of an inch apart. In taking this stitch the conjunctiva is held back by means of forceps in the hands of an assistant. The loop, consisting of the middle of the suture which is armed with two needles, is beneath the central part of the muscle, at just that distance behind the tendonous insertion indicated by the judgment of the operator.

(4) The forceps and hook having been removed, the operator, taking the fixation forceps in his own hand, seizes the tendon at its insertion that he may hold the eye steady while passing the two needles into the scleral tissue, the anterior conjunctival flap being held forward by the assistant. Either the upper or lower needle may be passed first, and the points of passing these are chosen with the view of not changing the plane of action of the muscle, there being no cyclophoria, or of changing this plane when there is cyclophoria. In the former case the one needle is passed just as far below the plane of the horizontal meridian as the other is to be passed above this plane. The lower needle should be held parallel with the plane of the equator and well behind the canal of Schlemm. The puncture made below, and the counter-puncture made above, should include only a narrow band of scleral fibers, and the dip of the needle into the sclera should not be too deep. A similar vertical stitch above the horizontal plane should be taken with the other needle. The space between the two vertical stitches should be as broad as the stitch previously taken in the muscle, and the one scleral stitch should be as far below the horizontal plane as the other is above this plane. After the scleral stitches have been taken the two needles should be passed through the anterior conjunctival flap.

(5) The last step of the operation is the tying of the suture. This I always do over the silver suture plate devised by Dr. G. H. Price, of Nashville. The two needles having been passed through the two holes in the suture plate are now removed and the surgeon's knot is tied, but not until that part of the muscle through which the loop was passed has been drawn as far forward as necessary, usually up to the scleral stitches. Since this part of the muscle can not be drawn a greater distance in advance of the insertion of the tendon, than the distance between the loop of the suture and the insertion of the tendon, it becomes evident that the muscle stitch should be the same distance behind the insertion of the tendon as the

scleral stitches are in front of it. The folded muscle and tendon lie flat and the posterior conjunctival flap is drawn forward nicely.

If this safe and easy advancement operation has been previously described by any one, at home or abroad, I shall be only too glad to surrender my claim to him. I have not seen such a description.

EPISCLERITIS.

BY DON M. CAMPBELL, M. D., L. R. C. S. EDIN.,
DETROIT, MICH.

Episcleritis is a term which has been applied to a group of diseases which are of quite frequent occurrence and of great importance in as much as many of the cases run a long, intractable and extremely destructive course eventuating in much loss of time and effort on the part of the sufferer and all too often terminating in more or less loss of functional activity in the affected eye.

The term is one which is etymologically misleading. Episcleritis signifies an inflammation above the sclera and presumably below the conjunctiva that is involving the episcleral tissue, which is a thin layer of reticular tissue joining the sclera to the conjunctiva.

When, however, one comes to briefly sketch the pathology of the various lesions grouped under this term one will immediately see that the term episcleritis is not only insufficient but that it is positively misleading; that it is, in short, a term which has by usage, or rather by insufficient detail in classification, been made to do duty for various lesions which are pathologically quite divergent and that they manifest a wide variety of clinical manifestation. Should we not attempt, in the interest of a more scientific nomenclature, a better pathology and a more efficient therapy—a better, broader and more comprehensive classification?

It has occurred to the writer that a classification based on a clinical manifestation backed up by anatomic distribution and confirmed by pathologic findings would be a great step in advance and perhaps eventuate in our being able to do more for these deplorable cases.

CLASSIFICATION.

I would suggest the following brief classification as a working basis. I must say, however, that it is based largely on what I have clinically observed of these cases:

1. *Acute Episcleritis.*—Which is meant to include all those cases

which are characterized by an acute inflammatory action involving the episcleral tissue. This will be found to be clinically a very distinct type of inflammation well differentiated by clinical signs and symptoms, anatomically sharply defined and pathologically capable of easy distinction from other processes going on in its vicinity.

2. *Acute Scleritis.*—Which is designed to cover those cases of inflammation of the whole or more frequently sections of the sclerotic coat. The group is also clinically, anatomically and pathologically clearly differentiated, especially so from acute episcleritis, from which it is clinically widely separated.

I have never known an acute episcleritis to be complicated by an acute scleritis.

3. *Chronic Scleritis.*—By this term is meant that class of long-continued, low-grade inflammatory actions in the sclerotic coat which have gradually brought about a thinning by absorption of that coat, allowing the dark choroid to show through or, in still more advanced conditions, permitting the formation of arterior staphyloma.

This form of the pathological process is, of course, the ultimate conclusion of the same process which begins as an acute scleritis.

It seldom exists as a distinct entity but is prone to be complicated by extension of the inflammatory process into neighboring anatomic fields, as, for instance, either a scleratizing keratitis, a chronic cyclitis, a choroiditis, or a plastic iritis; in short, uveitis with all that that implies, will frequently be found as an accompaniment or complication of chronic scleritis.

SIGNS AND SYMPTOMS OF ACUTE EPISCLERITIS.

Lachrymation, feeling of discomfort or sensation of foreign body in the eye. Moderate tenderness to pressure and what is characteristic of the condition, a circumscribed red elevation over the affected area, carrying over it the uninflamed conjunctiva. In some cases this elevation is as large as a quarter the size of the eyeball, and in appearance is suggestive of a sarcoma of the sclerotic. The size of the elevation varies all the way from that described above to small elevations not larger than a sago grain. The point I wish to make here is that the elevation is the sign which is characteristic of the episcleritis and that for it there is an anatomic reason, i. e., the episcleral tissue, being of a loose reticular variety, easily receives inflammatory exudate, thus promoting prominent swelling, whereas the sclerotic itself, being dense, does not lend itself easily to the deposit of inflammatory debris.

This same anatomic peculiarity also explains why there is so little pain in this variety of inflammation.

SIGNS AND SYMPTOMS OF ACUTE SCLERITIS.

In this division of the classification the symptoms and signs are equally as characteristic. There is no circumscribed swelling over the area of inflammation but a peculiar bluish purple, frequently sharply circumscribed area of redness which is deep seated in the sclerotic coat, the conjunctiva passing undisturbed over the inflamed area. It is tender to the touch and frequently the pain is quite severe. Several areas in the sclerotic may simultaneously be involved or the whole sclerotic may be the seat of the inflammatory action.

There is lachrymation and photophobia but no interference with the acuity of vision.

SIGNS AND SYMPTOMS OF CHRONIC SCLERITIS.

In this form of the disease which is the ultimate conclusion of the acute scleritis, the signs and symptoms ascribed to the latter are also present, and in addition are found those which are consequent upon the softening and absorption of the sclerotic coat together with the extension of the inflammatory actions to surrounding anatomic areas, viz., staphyloma. Shining of the dark choroid through the thinned sclerotic to which may be added the signs and symptoms of scleratizing keratitis, irido cyclitis, choroiditis or uveitis and finally degenerative processes terminating in destruction of the functional activity of the eye.

PATHOLOGY.

These are true inflammatory processes with all that that means from a pathologic standpoint, there being present all the various details found in that process in other parts of the economy. It is unnecessary to describe the minutia of the pathology of inflammation but it will be found in all its details in the various forms of the disease.

In chronic scleritis in consequence if the long continued pressure within the sclerotic coat from the inflammatory exudate this dense resisting membrane is gradually softened, absorbed and replaced by a less resistant substance which is unable to withstand the intraocular pressure and thus admits of the formation of staphyloma.

ETIOLOGY.

One has to go far a-field in seeking and following out the various ramifications of the causes of this disease.

That it is a local manifestation of a constitutional disease can be stated, I think, without fear of successful contradiction. The histologic elements, going to make up the episcleral and scleral tissue are found to be of the white fibrous variety. It is further known that those anatomic structures which are most prone to be influenced unfavorably by the various forms of auto-intoxication from disturbances in the gastro-intestinal tract, in the metabolic functions of the liver or in the eliminative work of the kidney, bowels or skin are made up largely of this same white fibrous histologic elements, such as the joints, ligaments and the pericardium.

This analagous makeup throws some light on the etiologic factors to be looked for in inflammatory actions involving the episcleral and scleral tissue.

It is a well-known fact that rheumatic and uric acid conditions of the economy are frequently associated with joint and pericardial inflammation, and so it is also in the episcleral and scleral inflammation. The underlying cause in this difficulty is in the majority of cases a saturation of the body with the products of defective digestion or inefficient elimination, or of both. This does not necessarily mean that that patient is a rheumatic subject, but merely that he is a subject of auto-intoxication or auto-infection which may or may not be rheumatic.

We might go a little back of this again and inquire what this auto-intoxication means, and here we would find indeed a many-sided question. Any disturbance in digestion from the esophageal end of the stomach to the lower rectum might be the cause of an auto-intoxication. Any want of proper working of the portal circulation and any failure on the part of the various emunctories to do their work properly would bring about a condition of affairs capable of introducing into the circulation the poison which would eventuate in an episcleritis or a scleritis.

Another thought in this connection worthy of some elaboration is this: Is there some form of infection at work producing poisons or ptomaines which, upon being absorbed, produce this form of inflammatory action?

The good influences of antistreptococcus serum in the treatment of certain forms of so-called rheumatism is very suggestive of the diseases which are so classified not being rheumatism at all, but the result of bacterial infection, and so, too, it may be in some of those cases episcleritis and scleritis. Syphilis, in my experience, is an exceedingly infrequent cause of this inflammation.

TREATMENT.

The local treatment should consist of such measures as are best calculated to combat inflammatory action. Rest, chiefly physiologic, by means of non-use of eyes, protection from light and paralyzing the ciliary muscles by atropine.

In some cases associated with high tension eserine may be indicated.

Hot antiseptic eyebaths: Local blood letting by leeches, artificial or otherwise. In order to secure the easiest use of the eye all refractive errors should be corrected, as also so should all imbalances of the muscles. Disinfection of the conjunctival sac can be secured by argyrol, protargol or boric acid. Adrenalin, while it has a wonderful influence in temporarily controlling congestion, in my experience is not curative, and may be in some cases very undesirable excepting, perhaps, for very brief periods of time; the reactionary congestion being very undesirable.

The constitutional treatment must aim at, above all things, a correct mode of life as to exercise, diet and the proper functional activity of the skin, bowels and kidneys.

It is impossible to lay down a general plan of diet for these cases. The dietary that the individual's digestive organs can properly take care of is the best one suited. In any individual case this can only be carried out by careful study. In the way of internal medication salicylate of soda is the drug which gives the best results, but in order to secure the beneficial effect of the drug it must be fresh and pure and given in solution, and because it is so very quickly eliminated the dose must be frequently repeated.

How much of a dose of salicylate of soda shall be given?

A large dose and frequently enough repeated to secure the full psysiologic effect of the drug, viz., tinnitus aurium and sweating.

Generally speaking, fifteen grains every three hours, night and day, will be required to do this, and not until it is done will the best effect upon the eye be noticeable. If salicylate of soda disagrees or is contraindicated, asperin may be used. In acute episcleritis and acute scleritis this plan will be effectual, and in many cases of chronic scleritis a cure can be thus brought about, but in a certain number of cases of the latter variety the cure will be incomplete and something more is needed. Hot mineral baths are very important adjuncts.

Recently in quite a number of such cases I have found the employment of vigorous pneumatic massage applied directly to the eye-

ball to be of vast value in so changing the circulation in the eye and orbit as to bring about a rapid and apparently permanent cure.

Furthermore it would seem to me that in cases intractable to those forms of treatment the antistreptococcus serum could be used by the hypodermic method with advantage, as could also the subconjunctival injection of normal saline or bichloride solutions.

In order to secure a permanency to the cure the dieting and hygienic control must be forever kept up.

57 WEST FORT STREET.

TWO UNUSUAL FORMS OF KERATITIS, PROBABLY RHEUMATIC IN ORIGIN.

HOWARD F. HANSELL, M. D.
PHILADELPHIA.

In reporting these two cases of keratitis I may be falling into the error, which I believe to be common among clinical writers, of regarding as unusual types of disease, and as worthy of publication, the stages of development and decline of inflammations of the cornea not infrequently observed by others. In my experience, however, they are unique. I hesitate to designate either of them by the name that appears to signify their most striking sign and to add one or two more to the already long list of keratites described according to appearances with little regard to etiology and pathology.

Case 1. Mrs. R., aged 60, a delicate, anemic woman, had suffered with inflammation of the left eye for one month. She complained of partial loss of vision, moderate photophobia and neuralgic pain in the eye and orbit. The pain was sharp and periodic, recurring in severe paroxysms about midnight and continuing for an hour or two. The symptoms increased in severity until vision was reduced to counting fingers at a few feet, and the patient was exhausted with suffering. Upon examination after one month's duration of the affection it was found that the temporal two-thirds of the cornea was the seat of an infiltration resembling in shape Chinese characters. The lines of infiltration were several mm. in length, changed in direction by one or two acute angles, sharply defined, dense white, and separated from each other by almost perfectly transparent and unaffected cornea.

Read before the Section on Ophthalmology, College of Physicians, Philadelphia, October 1903.

The opaque lines ended abruptly in clear tissue. The overlying epithelium was preserved in its integrity and was not elevated beyond the level of the healthy cornea. At this time the infiltration was not vascular, but later, at the incipiency of the healing process, a minute blood-vessel formed in the axis of each opaque stripe and extended from the limbus to the abrupt termination. Lens magnification showed that the affection was located in the middle layers of the cornea—a true interstitial deposit—and that the subsequent vascularity was also deep. Accompanying the infiltration, appearing at the same time and continuing until the termination of the acute stage, were two vascular superficial round ulcers, one near the upper and one near the lower limbus. Undoubtedly the two forms of disease were etiologically connected, but clinically they offered distinctly different characteristics. The cornea was surrounded by a zone of conjunctival and ciliary congestion, the iris not apparently affected, and the interior of the eye seemed to be healthy. The resemblance of the opacity to dendriform or malarial keratitis suggested examination of the blood for plasmodium malariæ. Several examinations gave negative results. The urine was free from albumin and sugar. The patient was admitted to the Polyclinic Hospital and treated with atropin and hot water bathing locally and given twelve grains of quinine daily. At the end of the first week no improvement was noted except the relief from nocturnal neuralgia. During the second week of her stay, large doses of salicylate of sodium and Fowler's solution were administered. Under the use of these remedies the symptoms rapidly disappeared. The superficial vascular ulcers healed and the interstitial deposit was to a great extent absorbed.

Case 2. A man, 36 years of age, complained for some days of dimness of vision, intense photophobia and excessive lacrimation. Notwithstanding intelligent and well directed local treatment by a general practitioner, who is also something of an expert in ophthalmology, the symptoms increased in severity. At the time of my examination the cornea was dotted immediately behind Bowman's membrane with about twenty-four small gray discreet spots, scattered through its area and not confined to the lower quadrant, as is characteristic of the so-called descemitis or punctate keratitis. Otherwise the cornea was clear and the iris unaffected, but the anterior chamber was deeper than normal and the tension raised to + 1. The symptoms were relieved immediately by instillation of eserin, and under this remedy the points of opacity cleared away in a few days, to be followed by an attack of acute inflammation of the sclera. The case may be regarded

as one of acute rheumatic keratitis with prior involvement of the cornea. The deep anterior chamber and the high tension were due to a disturbed relation between excretion and secretion, the normal relation being reëstablished and maintained by eserin.

The second case may be properly designated as superficial punctate keratitis, and yet it is an illustration of an essentially different type from those affections described under that head. Even that reported by Posey under the same title has no points in common except that the cornea is the seat of the disease in both. A Japanese writer describes the case of a man, 26 years old, who had for several days partial loss of vision from "countless minute areas of opacity with clear patches between, deep in the substantia propria of the cornea." The same affection attacked the other eye and "presented the appearance of typical double circumscribed avascular interstitial keratitis." He believes "that the wandering cells in slight or very chronic inflammatory cases fill the lymph spaces of the cornea and that they do not enter the lamellæ, and hence produce the appearance of typical punctate spots with clear interspaces."

The first case may be classified under the title of "Lattice-work Keratitis," described by Beber in 1890, and again by Haab in 1899, a name that fairly well describes its most conspicuous symptom.

NOTES FROM THE CLINIC OF DR. GALEZOWSKI.

BY E. C. ELLETT, M. D.,

MEMPHIS, TENN.

Illustrated.

Dr. Galezowski's clinic is at 41 Rue Dauphine, Paris, in a building intended for other purposes, but which serves very well for this. The clinic is open from two to four daily, and the service, while I was there, ran about fifteen new and two or three times that many old patients a day. The out-patient department occupies four rooms on the second floor and above this is the hospital with thirty beds. All of this is a private charity and is maintained by Dr. Galezowski himself at an expense of 20,000 francs a year. The arrangement and method of work is not different from that of other small independent clinics, and needs no special mention. The division of time is as follows: Mondays, Wednesdays and Fridays are operating days; Thursday is ophthalmoscopic day, and Saturday is refraction day. Dr. Galezowski attends in person daily, sees the new cases and some of the old ones, gives treatments and performs such minor operations as removal of foreign bodies, slitting the canaliculi, probing the tear ducts, etc.,

at the treatment table. Physicians visiting the clinic are cordially welcomed and made to feel at home, with seats close to Dr. G.'s elbow. While there I did not find the clinic crowded with visitors as it probably is in the winter. Dr. G. talks constantly and in the most entertaining and instructive way about the cases. The fact that he talks slowly is quite an advantage to one whose knowledge of French is limited.

Of the many things of interest one sees in any clinic, it is worth while to mention a few, and in this instance only those things need be mentioned concerning which opinions and practice differ from our own.

Let me first speak of the Thursday ophthalmoscopic seance. While such examinations are made daily by the assistants, all cases with fundus lesions are referred to this day, when they pass under Dr. Galezowski's own eye. He seats himself at a table on which rests a blackboard, and upon this he sketches the fundus changes before passing the case on to the assistants and students for examination. He uses his own pattern of ophthalmoscope, and the indirect method exclusively. There are more cases than one can digest in one afternoon,

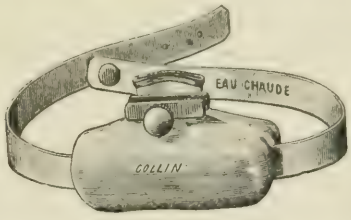

Fig. 1.

but this enables one to do a little selecting, and not only single instances, but groups of cases of most of the ordinary fundus lesions at least, can be studied in one afternoon. Dr. G. is willing to talk and answer questions, as well as so skilled in the work, that this feature of his clinic will always be recalled with the greatest pleasure. The optimism which prevails concerning the possibility of help in some of the hemorrhagic and inflammatory lesions of the retina and choroid can only be judged by long observation of the cases and their treatment, but certainly they are more optimistic than we. The favorite line of treatment in these cases is the instillation of adrenalin and hamammelin solutions with alternate hot and cold applications to the eye. The latter are made by means of little rubber bags of Dr. G.'s devising (Fig. 1), each being applied for fifteen minutes at a time for an hour twice a day. In addition to this, appropriate general treat-

ment is carried out. In specific cases no iodide is given, or, indeed, any internal treatment at all, reliance being placed on inunctions alone. A special form of mercurial ointment is used, 50 per cent strength, made up with olive oil and vaseline and put up in capsules containing two grams. One of these is rubbed into the skin in the usual manner daily until seven hundred doses have been taken, when the course is ended and the patient is cured. Mydriatic drugs are not used so frequently or freely as with us in the inflammatory conditions of the anterior segment, and they are used in the form of ointments very often. A favorite method of employing the mydriatics is to instil duboisin at night and eserine in the morning. I did not see the artificial leech used.

There were many cases of superficial keratitis (ulcerative) at the clinic, most of them being phlyctenular, all of which are put down as herpetic, and ascribed to a febrile condition. In the treatment of this condition an iodoform ointment (1 per cent) is much used, rather more, I think, than the yellow oxide of mercury, and it seemed to me that not so much attention is paid to the digestive condition of the children with phlyctenular ophthalmia as is the rule with us. I did

Fig. 2.

Fig. 3.

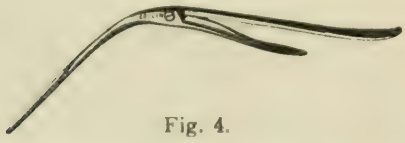

Fig. 4.

not see any of our popular caustic agents, such as iodine, carbolic acid, nitrate of silver or the actual cautery, used on these cases, nor does the condition of the nose and naso-pharynx seem to be as carefully scrutinized as we generally believe to be necessary.

The lachrymal passages are given more attention than I have ever seen anywhere. Practically all cases of conjunctivitis not trachomatous are put down as lachrymal conjunctivitis, and treated by slitting the canaliculi, probing and syringing. For this work, Dr. G. uses his own model of knife (Fig. 2) and probes (Fig. 3), and occasionally a dilator (Fig. 4), also of his own design. It is not possible to judge

fairly of the benefit which follows this treatment, applied almost as a routine practice, in such a brief visit as mine was. Dr. Galezowski does not practice excision of the sac at all.

The favorite stringent applications are sulphate of zinc in 1 per cent solution, and a solid cyanide of copper, called "cupricine," in 10 per cent crayons. The latter is a substitute for copper sulphate, than which it is much less severe and said to be equally efficient. Nitrate of silver is certainly not so much used as in this country, and I saw no protargol, argyrol or similar preparation. In conjunctival and corneal inflammations, the eye douche is much used, plain water being thrown with a vaporizer, which operates by steam and is similar to the ones used by the hair-dressers for steaming the face. The vapor is warm, not hot, and is administered by a nurse, who collects a fee of 25 centimes for each administration. I was not impressed with its superiority over irrigation with one of the milder antiseptic solutions, unless the psychological effect amounts to something.

From what I could see of the work, refraction is not so carefully done as we see it here. I was surprised not to see the ophthalmometer used at all, not so much because I believe in its value, but that this is its home. Retinoscopy is very little used, and cycloplegics are apparently used only exceptionally. The only trial cases that I saw are certainly not such as one equips himself with to do refraction in this country; but it should be borne in mind that these observations were made in a clinic where the vast majority of the patients come for the treatment of inflammatory diseases or for operations, and the eye-users and neurotics who compose such a large number of one's office refraction cases were almost entirely lacking. In the private offices the equipment is all that could be desired. The means and methods employed were doubtless sufficient for what we may term the "gross refraction."

In operative work the greatest skill was displayed, but there was not the regard for asepsis and antisepsis which we think is necessary. We know that as the instruments alone touch the eye in our operations it may be necessary to have the instruments alone thoroughly aseptic, but I do not think the American conscience would rest easy in the presence of pus after an operation, unless the field and operator's hands, as well as the instruments and dressings had been thoroughly prepared, while it is certainly running a risk to let sutures trail over dirty faces, and to use instruments fresh from the case without sterilization. But I must say that I saw no bad results from these practices. Chloroform is used exclusively for anesthesia, and with much more

freedom than on this side. Many of the operations are done during the primary stage of anesthesia, which looks like operating before the patient is under the anesthetic. In the use of cocain, I am sure that sufficient time was not allowed for it to have its full effect, the operation often being begun almost as soon as the solution was instilled into the eye. In most of the operations there was little departure from the methods in vogue here. Chalazia are dissected out from the conjunctival side after being caught up with a tenaculum, and the wound is closed with a stitch. After enucleation, the cut edges of the conjunctiva are stitched, and while I have not seen this done as a rule in this country, it seems to me that there is less discharge from the socket when it is done, and the healing is probably a little more rapid. I had the good fortune to see the operation of anterior sclerotomy performed by Dr. Galezowski's method several times. He does this on cases of glaucoma simplex, where the tension is little, if any, elevated. There is a group of cases which he classes as glaucomatous atrophy, for which he especially advises the operation. Since the cases are undoubtedly usually put down as cases of simple atrophy,

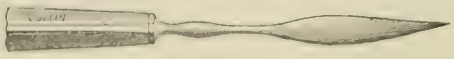

Fig. 5.

it may be of interest to enumerate what he considers to be the characteristic signs of this condition:

1. The papilla is white, especially in the temporal half.

2. The central veins are diminished in size at their point of entering the nerve, but further back on the retina they are larger.

3. There is sometimes spontaneous venous pulsation, but not arterial.

4. The pupil is large and irregular, and reacts to light.

5. The field is contracted, especially nasally. (On this sign he lays great stress.)

6. Dyschromatopsia is not present.

For these cases the operation of sclerotomy is performed with Dr. Galezowski's sclerotome (Fig. 5). This is entered in the sclera, just without the limbus, and pushed into the anterior chamber and rapidly withdrawn. Four such punctures are made about over the insertions of the recti, and with such skill that all four are made without losing the aqueous. The operation is said not to be painful, and its performance is followed by the use of eserine. It does not answer the purpose in inflammatory glaucoma, as I had the opportunity to see, and in these cases an iridectomy is done.

In the performance of the operation for cataract, more care is taken in the antisepsis and anesthesia. The puncture and counter-puncture are placed just at the sclero-corneal juncture, and the flap is semi-elliptical, and of a size half way between that of Daviel and that of Graefe. The summit of the flap is 2 mm. from the corneal border, within the cornea, like that of Daviel. Iridectomy is omitted and the speculum is removed after the laceration of the capsule. Galezowski's speculum has joint-arms, to permit of its being bent down on the cheek out of the way (Fig. 6). Having removed the speculum, he rubs the third finger of the right hand on a bit of chalk, and with it thus protected from slipping, he raises the upper lid. A spatula is held between the thumb and index finger of this hand, and the lower lid is depressed and pressure made on the ball with the left thumb. The lens is thus made to present, and by pressure with the thumb and counter-pressure if necessary with the spatula, it is delivered and eserine instilled. I saw the operation performed on a woman with aniridia and congenital cataract, and whose son was similarly afflicted.

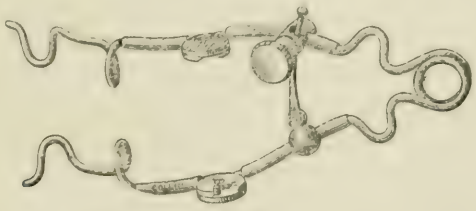

Fig. 6.

The method of operating for strabismus (tenotomy) is to make a long horizontal conjunctival incision and an equally free vertical division of the capsule of Tenon. The tendon is then caught up and freely divided, the conjunctival wound sutured and the sound eye bandaged. I saw this operation performed on a boy about twelve years old, whose mother said he had not been previously treated with glasses or exercise.

After all operations, the eye is closed with a strip of thin sterilized adhesive plaster, or "taffeta," over which the usual dressings of gauze, cotton and bandage are applied.

In conclusion, I wish to acknowledge the great kindness of Dr. Galezowski and his assistants to me, and to advise those who visit Paris not to fail to attend this clinic. The service is good, the difference between practice there and here sufficient to be of continual interest, and the ophthalmoscopic work on Thursdays is a treat.

DEFICIENT DYNAMICS OF THE EXTRA-OCULAR MUSCLES.

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It is my purpose in this paper to specify and describe a condition of the muscles controlling the movements of the eyeball which, although known to exist, has not, so far as I can determine, been isolated and considered as a distinct entity apart from other pathological conditions. In order to make clear the condition which I wish to present, the following groups of muscle anomalies are given:

(1) Palsies.
(2) Concomitant strabismus.
(3) Heterophoria.
(4) Hypovergence.

The last group is the one to which I refer. By hypovergence I would indicate a condition to which no term has heretofore been definitely applied—that of deficient dynamic action of the extra-ocular muscles. There is great need of simplification and exactness in the nomenclature of ocular myology. Many of the terms in use are improperly applied and there is unneedful multiplicity of terms. Vergence should be used in referring to the relation of one visual axis to the other—*vergo*-incline. Duction should be employed when referring to the movements of the visual axis in exploring the field of fixation. The terms adduction, abduction, hyperduction, hypoduction, sursumduction, superduction and deorsumduction, as applied to the neutralization of prism diplopia, are improperly used.*

Although opinions vary as to the amount of verging power, expressed in prisms neutralized, the concensus of belief is that, normally, the power to separate the visual axes in the vertical direction (sursumvergence, improperly called hyperduction) is 2 to 5 degrees; in the horizontal axis, *outward* (divergence, improperly called abduction) 6 to 8 degrees: and *inward* (convergence, improperly called adduction) 18 to 24 degrees. Individuals may possess more than this amount of dynamic vergence in any direction without suffering any discomfort, providing no deficiency exists in any other direction. On the other hand, to possess a less amount generally gives rise to a train of symptoms of the most distressing character. Such deficiencies of vergence may be expressed as follows:

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*See Duane, Am. Text-book of Diseases of the Eye, Ear, Nose and Throat, p. 502.

(1) Hypovergence, deficient dynamic vergence in any direction.

(2) Hypoconvergence, deficient dynamic convergence.

(3) Hypodivergence, deficient divergence.

(4) Hyposursumvergence, deficient sursumvergence.

The last is considered as "right" or "left."

It is a well-known fact in physiology that no muscle or group of muscles can continue to perform its normal functions without disturbing symptoms, if at all, when such functions call forth the greatest exertions of which the muscles are capable. In other words, nature has been prolific in endowing us with a surplus power. This is a great advantage, inasmuch as only the simplest functions could be performed if only the necessary power for these had been granted. On the other hand, as may be seen later, and as is witnessed in all athletic accomplishments, this power may be greatly increased by exercise. A striking example of this is seen in the ciliary muscle in the case of hypermetropes. Hundreds of hypermetropes go through life with little or no disturbance, because the exercise of the ciliary muscle makes it equal to the amount of work to be accomplished. Such muscles are above normal in the amount of function of which they are capable. But if the hypermetropia is too great, or for any reason the muscle is incapable of such development, then symptoms arise.

These laws apply to the extraocular muscles. It is not in those cases alone in which there is extra work to be done (esophoria, exophoria, or hyperphoria) that symptoms arise, but in the cases in which such extra work, or, as will be seen, in which the *normal function* is not properly met.

The forms of deficient dynamic function have heretofore been considered, if at all, under the heading of some of the heterophorias. The only exception to this with which I have met is to be found in Worth's "Squint." He gives a separate consideration to what is herein classified as hypoconvergence. His title is "Insufficiency of the Dynamic Convergence," to which he devotes several pages. He does not mention other forms of deficient dynamics.

The study of the extraocular muscles generally occurs with that of the refraction. This is advantageous, since they are so intimately associated, physiologically, with the ciliary muscle which plays such an important role in connection with refraction. It is a general rule among ophthalmologists to study the extraocular muscles by means of the Maddox rod or other means of determining static balance. A careful study of the dynamic properties of these muscles

is very generally neglected, I believe, except in such cases as may show sufficient static imbalance as to incite to a study of the power and limitations in vergence of which they may be possessed. It is generally taken for granted that, if the static balance is not deficient, there is not present any defect in the ability of the eye to assume the ordinary movements and secondary positions.

In other words, it is assumed that there is a definite relation between the statics and the dynamics in any given case. This may be generally true, but the exceptions are of sufficiently frequent occurrence as to warrant a careful determination of the dynamics as well as the statics in every case. An examination of 100 consecutive cases from my records, as given below, shows 14 per cent of all cases where the refraction was examined to possess one or more of the three forms of hypovergence, and only half of them (Nos. 3, 6, 10, 11, 12, 13 and 14) show a corresponding static imbalance, leaving 7 per cent of all cases to possess hypovergence *independent of static balance.*

No.	Name	Statics				Dynamics				Correction
		Es.	Ex.	Hyper.		Cn.	Div.	Sur-sumv.		
				R	L			R	L	
1	J. R. F.	5			¼°	12	1°	1°	1°	O. D. — .1c ax. $75\frac{20}{20}$ O. S. — .50c $105\frac{20}{20}$
2	S. W.	1°			¼	17	8°	½	3	O. D. + .25c $15\frac{20}{20}$+ O. S. + .25c $180\frac{20}{20}$+
3	J. H. H.		2½		1½	10	6°	1	4°	O. D. — 2.75 sp. $\frac{20}{20}$ O. S. — 1.75 sp. $\frac{20}{20}$
4	A. H. F.	½				7	2	1	1	O. D. + .1 sp. ⌒ + .50c $75\frac{20}{20}$+ O. S. + .1 sp. ⌒ + .75c $90\frac{20}{20}$+
5	M. A. K.	½			¼	20	3	1°	2	O. D. + .1 sp. $\frac{20}{20}$ O. S. + .1 sp. ⌒ + .25c $75\frac{20}{20}$
6	K. C.		½		½	12	11	2	2	O. D. + 1.25 sp. ⌒ + .50c $90\frac{20}{20}$ O. S. + 1.50 sp. ⌒ + .50c $75\frac{20}{20}$
7	W. N.				½	12	4	1°	1	O. D. + .3c ax. $85\frac{20}{20}$+ O. S. + .1 sp. ⌒ .3c $105\frac{20}{20}$
8	F. H. N.	6		1½		14	6	4	1	O. D. + .25 sp. ⌒ + .25c $90\frac{20}{20}$ O. S. + .25 sp. $\frac{20}{20}$
9	A. N.	1			½	8	8°	2	2	O. D. + .1 sp. ⌒ + .25c $75\frac{20}{20}$ O. S. + .25 sp. ⌒ + .75c $165\frac{20}{20}$
10	L. M.	5			1°	35	4	½	3	O. D. +2.25sp. ⌒+.25c $180\frac{20}{20}$+ O. S. + 2.50 sp. $\frac{20}{20}$
11	J. H.	2½°				20°	2	2	2	O. D. + 1.75 sp. ⌒+ .1c $105\frac{20}{20}$ O. S. + 1.50 sp. ⌒ + .1c $90\frac{20}{20}$
12	S. P.		2½	1½		6	9	2½	1	O. D. + .50 sp ⌒ + 2.50c $125\frac{20}{20}$ O. S. — .75c + $60\frac{20}{40}$
13	E. E.		½	¾		20	7°	2½	½	+ .1 sp. = $\frac{20}{40}$ + 1.25 sp. $\frac{20}{80}$
14	A. G.		1½	1°		20°	8	3°	1	O. D .50 sp. ⌒ — 1.25c $155\frac{20}{20}$ O. S. + .75 sp. ⌒ — .3c $165\frac{20}{20}$

If an esophoria of, say, eight degrees be present, we have a tending of the visual axes to deviate inward to such an extent that we scarcely expect to find the diverging power, as measured by prisms, up to what is generally considered normal, *i. e.*, 6 or 8 degrees. On the other hand, we expect to find an unusually great amount of converging power. This relation generally obtains. The exceptions to this rule represent the cases to which attention is herein directed.

On account of the important role played by the refractive conditions the correction has been given in each case. Not all of the high cases of heterophoria to be found in the list of 100 have been included, but where such cases happen to present a deficient dynamic condition they have been given. Since the movements of the eyeball in assuming secondary vertical positions, whether converging or not at the same time, are synchronous, but little verging power is necessary in this direction (sursumvergence). And although the static abnormalities of these muscles are of comparatively greater importance, hypovergence in this direction is perhaps not so frequent nor of so great importance to the patient. In the tabulated cases it will be noted that there is hypodivergence in six (Nos. 1, 4, 5, 7, 10 and 11). Of these six, but three (Nos. 1, 10 and 11) had esophoria of any importance. It will also be noted that of these six, only three (Nos. 5, 10 and 11) had normal convergence, showing a *general* deficiency in physiologic action of the extraocular muscles. In case No. 1, with five degrees of esophoria and but one degree of divergence, we should expect to find the patient a hypermetrope with increased stimulus to the convergence. On the contrary, the refraction condition present—myopia—lessening the amount of stimulation to the third nerve, would tend to produce a lessened amount of convergence, and this we find to be present. Therefore, the dynamic condition corresponds in this case to the state of refraction, but the static balance does not. From an analysis, then, of this case, we conclude that the deficiency in it is to be found in the muscles themselves, or, what seems more probable, in the brain center which presides over the physiologic movements of the eyeballs during the assumption of secondary positions—presuming that such a center exists.*

*Duane, American Text-book of Diseases of the Eye, Ear, Nose and Throat, p. 502, says: This movement * * * is apparently governed by a nerve center distinct from the nerve nuclei of the internal recti.

Fuchs, Text-book of Ophthalmology, p. 588, says: The movements of the ocular muscles are regulated by nervous centers of different rank. The lowest centers are the nuclei on the floor of the fourth ventricle from which

Of the fourteen cases, nine (Nos. 1, 2, 3, 4, 6, 7, 8, 9 and 12) show hypoconvergence. Only three of the nine possess exophoria, whereas we should expect to find exophoria in all if we adhere to the rule of relation between the statics and the dynamics. In three of the nine cases of hypoconvergence the eyes are hypermetropic, which should tend to give increased converging power, while in four they are either myopic or antimetropic—conditions which discourage convergence. In Nos. 2 and 8 the state of the refraction would not generally be considered to have any influence on the dynamics of the extraocular muscles. The five cases of exophoria are three of them myopic and the other two are hypermetropic.

The correction of refraction errors, where they exist, is in many of these cases an important step in the treatment, and must therefore be considered an important element in the etiology. The cause is, however, generally to be found either in the lack of development of the associated movement center, to which reference has already been made, and which we have ample reason to believe exists, or it is physiologic, and consists in the patient not having discovered the functions of which these muscles are capable.

The symptoms which arise vary according to constitutional idiosyncrasy, but the following embrace those most commonly met with: transient diplopia, overlapping of the pages when reading, vertigo, muscæ, "sick-headaches," "panorama-headaches," fainting spells, hystero-epilepsy, aching of the eyeballs or in the region of the canthi, tugging or drawing sensation about the eyes, temporal and occipital headaches, inability to do any close work continuously, and a history of having frequently had changes of glasses without relief.

In making the study of these muscles the Maddox rod is the most practical means of testing the static balance. It should be placed in the ordinary trial frames, and prism diplopia should not be produced in connection with its use, as this renders the relation of the images to each other less constant. This is due to the fact that one image—generally the one seen by the uncovered eye—falls upon the macula, while the other—that produced by the Maddox rod—falls upon the periphery of the retina, where fixation is not developed. "The rod" used should be a multiple one, so that perfect centering will not be necessary, and as the patient approaches

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the nerves themselves arise. Presiding over these are centers of high ranker—the association centers—for co-ordinating the actions of the individual ocular muscles.

close to the light, converging of the visual axes will not interfere with the images being both seen at the same time. The light used should be a small flame, and not that obtained from a perforated opaque chimney. If the chimney is used, the light escaping at the top or bottom will produce other, broader, bands of light, which confuse the patient or cause him to give incorrect answers. With the patient at twenty feet distant the rod is placed before the left eye (it is best to make a habit of placing it before the same eye), with the line vertical, and the patient is asked to give the relation of the line to the flame. If he does not see it at once, his attention may be attracted to it by tilting it from side to side or by having the patient alternately raise and lower his face, thereby projecting the line upward and downward. If, when the prisms have been placed in the frames as indicated, the line is quite unsteady, moving from side to side across the flame, these movements of the face up and down will better enable the patient to determine when the line most nearly tends to remain through the flame. The vertical muscles are tested in a similar manner. These results must not be taken to have any special significance until the dynamic movements of vergence are determined, which may be done as follows: The patient is allowed to stand, being at the same distance as before from the light, which is on a little lower level than his eye. Begin with the weakest of the muscles, *i. e.*, those producing vertical vergence, and examine each group in order of its strength. If this rule is not followed, the increased action produced by the tests in the strongest groups will interfere with a proper determination of the relative power of the weaker muscles. To determine the right sursumvergence a prism of one degree is placed before the right eye with its base down, or before the left eye, base up. As soon as single vision is obtained it is exchanged for a prism of two degrees, placed in the same position, and so on until diplopia becomes permanent. The left sursumvergence is tested in the same way, employing only enough time to encourage the best efforts of either group, without "training" them. Prolonged efforts at right sursumvergence will often render the left sursumvergence a degree or more less than normal, or vice versa, causing the results to be misleading. The diverging power is tested by placing a prism of, say, six degrees, base in, over either eye and making such changes as the answers indicate. When diplopia begins to be produced, the muscles can often be encouraged to greater action by allowing the patient to approach the light. This would seem paradoxical, since the convergence occurring would have to be overcome, but in a normally

balanced eye the dynamic power of the muscles does not vary in proportion to the amount of convergence employed, although it does vary to some extent.*

There is not the same prism diverging, converging or sursumverging power at shorter distances that exists at parallelism of the visual axes. The fusion sense is much more acute at shorter distances, and this it is that causes greater efforts to be made as the light is approached. The single vision secured by approaching must be maintained as the patient walks backward to determine the true verging power.

The dynamic convergence is determined in the same manner, with the bases of the prisms placed outward. In adding to the amount of prism while the patient is holding against diplopia at distance, low degree prisms should be used on the eye over which the changes are being made. For instance, if the convergence is increased to fifteen degrees, and there is difficulty in maintaining single vision above that, a prism of this number should be placed on one eye, base out, and while the patient is encouraged to fix the light constantly and care is taken not to interrupt the line of fixation, a one-degree prism is placed, base out, on the other eye. If this does not produce diplopia, a two-degree prism is taken in one hand and immediately slipped into the trial frame while the other hand is removing the first prism. In other words, all the power already exerted is maintained and greater effort called for without relinquishing a part of what is already exerted. When diplopia occurs, the light is again approached and backed away from, and the process repeated.

In any of these tests pains must be taken to see that the axis of the prism is exactly vertical or exactly horizontal, and this is best determined by having a portion of the base of each prism "ground" exactly at right angles to its axis, the edge of which will be readily determined by the examiner to be horizontal in the vertical tests and vertical in the horizontal tests. Trial frames are so often not true in their reading that they should not be depended upon for reading the axis of the prism, especially when a high degree prism is being used.

It will often be found that, although diplopia is present, it will not be noticed by the patient. This may be avoided by tilting the prism and causing the false light to move, when it will be seen. On the other hand, the brassy reflection from the front of the prism

*Jackson, Diseases of the Eye, p. 226, says: A relative divergence of 4 or 5 c. at the reading point is normal.

will often be taken by the patient for another light, in which case he may declare he sees three or even more lights. His attention must be called to the difference in their appearance. The room should not be too light.

No definite rule can be laid down as to the limit of verging power which is sufficient to produce symptoms, although it will generally be found that less than one degree of sursumvergence, four degrees of divergence or fifteen degrees of convergence will prove troublesome. This depends largely upon the vocation, temperament and habits of the individual. A "nervous" person requires muscles which perform their work liberally and with ease; a student, desk-worker or mechanical artist requires a free convergence; a theater-goer must be easily able to maintain parallelism for hours at a time, which requires a surplus of diverging power, etc.

The treatment of hypovergence in any of its forms is generally very satisfactory. Patients as a rule respond promptly to prism exercises, and in some cases two or three trainings prove sufficient.

The training is best conducted in the office, except in cases where unusual resistance to treatment is offered, when in addition to this the patient may be taught to conduct the exercises at home. The correction of errors in refraction is of importance.

The appended case histories are illustrative of hypovergence:

Case 1.—A. H. F., male, aged 21. Never worn glasses. No important inflammatory history. Has been engaged in clerical work for the last five years. During this time he has been subject, while at work, to "spells" in which he first notices a glimmering figure in his temporal fields. This gradually spreads and involves the entire fields. Objects seem to vibrate and small objects become double. He grows faint and pale and breaks into a cold perspiration, and is compelled to lie down. Never becomes unconscious. Attacks last ten or fifteen minutes, when he can resume work. He avoids any close work at home lest an attack come on.

Esophoria, ½ degree; no hyperphoria; sursumvergence, 1 degree; divergence, 2 degrees; convergence, 7 degrees.

During these tests he had one of the spells just as described above. Correction under cycloplegic, O. D. + 1 Sp. ⌒ + 50c. ax. 75 = 20/20. O. S. + 1 Sp. ⌒ + .75c. ax. 90 = 20/20. This was ordered, less 50 Sp., and muscle training instituted. After four office trainings his divergence was five degrees; convergence twenty degrees. He has suffered no attack since—during a period of six months.

Case 2.—L. A., female, aged 26. Has been glassed five or six times within the last three years. No important inflammatory history. Suffered a solar scotoma, which lasted several days, from watching an eclipse five years ago. No evidence of this remains. For several years has had pain in the eyeballs and in the occiput, always brought on or increased by any close work, which can be continued for only a short time.

Esophoria, ¾ degree; no hyperphoria; sursumvergence, 1 degree; divergence, 4 degrees; convergence, 12 degrees. Correction under cycloplegic, O. D. + .75 Sp. ⊃ .50c. ax. 105 = 20/20. O. S. + .75 Sp. ⊃ .25c. ax. 75 = 20/20. Her last lenses were .25 sp. less than this, and no change was ordered. The muscles responded slowly to exercises, but divergence of six degrees with twenty-four degrees of convergence was finally attained. The symptoms entirely disappeared, the patient became an omnivorous reader, and after a period of two years there has been no return of symptoms.

REPORTS OF SOCIETIES.

COLORADO OPHTHALMOLOGICAL SOCIETY.

MEETING IN DENVER, OCTOBER 17, 1903

Dr. Edward Jackson exhibited a *case of foreign body* (wood) *in the orbit.*

On discussion, Dr. E. W. Stevens, who had seen the case in consultation, remarked that "it was quite evident that the lachrymal gland removed had been dislocated. After opening and evacuating the pus, it seemed incredible that such a *woodpile* could have been overlooked, as was subsequently done, but the great depth of the splinters and the difficulty of distinguishing such a foreign body with a probe was manifest. Heretofore he had always thought it would be an easy thing to detect a foreign body in the orbit. The lesson to be learned from this case was not to close up such a wound but to pack it and let it heal from the bottom, when any foreign substances could more easily be found."

Dr. Melville Black "believed that, had the lachrymal gland not been removed, there might have been a lachrymal fistula produced. He believes there may be still more wood splinters in the orbit."

Dr. George F. Libby reported "seeing a man one month ago with the history that a flying piece of steel had struck and entered the orbit above the inner canthus, being directed downward. The patient being a railroad employe, had consulted a local surgeon, who had sealed up the point of entrance with adhesive plaster. Twenty-four hours afterward emphysema had followed and hemorrhage had taken place from a small arterial twig. On probing a sensation as of steel was thought to have been felt one-half inch into the wound. The patient was etherized, an incision made, but nothing could then be found excepting comminuted fragments of the supra-orbital ridge. The wound was packed and healed from the bottom. The emphysema disappeared. Subsequently an X-ray examination showed a sliver of steel located midway between the apex of the orbit and the eyeball. The foreign body has been left, as no irritation has followed."

Dr. W. C. Bane, on discussion, believed "that with an X-ray picture of a steel in the orbit the foreign body could be readily removed by the ordinary hand magnet if the substance was in the orbital fat, but if such substance was imbedded in fibrous tissue it was very difficult to withdraw it with such magnet."

Dr. E. R. Neeper reported a *"case of foreign body of eight weeks' standing.* The patient, a school girl, had suffered from signs of ordinary eye irritation. An optician had prescribed glasses, which failed to give relief. One month afterward a general surgeon had detected a swollen point in the lower conjunctival cul de sac, which was treated expectantly. Constant distress continuing, she was brought to Dr. Neeper, who found in the conjunctival sac above noted three polypi, two centrally located, one of these seemingly projecting from the eyeball and protruding upward to the ciliary margin of the lower lid. Another polypus was noted near the outer canthus. With the view of removing the polypi the patient was anesthetized. On removing the larger polypus a broomstraw was seen protruding, which on being removed measured seven-eighths of an inch in length. Subsequently a history of this eye having been struck by a whisk broom about the time the symptoms of irritation began was obtained."

Dr. W. C. Bane showed a case of *macular lesion.* H. M., aged 26, came to the college dispensary, Denver, August 20, 1903, with a history of having been struck in O. S. with a ball. The next morning the eye began paining, since which time there has been poor vision in it. O. D. V. 6-24, O. S. V. 6-36. Pupils equal and reactions normal. Dr. Bane did not see the case until August 25. He found at the center of the macula an ovoid spot appearing 1.5 mm. × 3 mm. in size long axis horizontal, a spot with a central probably depressed area, white in color, surrounded by a blood-colored areola, the areola being broader than the central white area. There is some pigment deposit, particularly along the upper margin, and a few spots of it irregularly distributed. The amount of pigment is manifestly on the increase.

On discussion, Dr. Jackson "believed the injury was the result of *contra-coup* and was of the kind reported as *'holes of the macula.'* None of the reports had given the depths of these depressions that he recalled. In this case there is not much depression, but there is surely a small amount of it. He believed the prognosis was bad."

Dr. D. Coover "had seen, with Dr. Bane two years ago, a similar case following a cataract extraction."

Dr. Black brought before the society D., aged 62, who sustained a fracture at the base of his skull last July. The fracture evidently ran through the right middle ear and injured the facial nerve. Ever since he has had complete paralysis of the right side of his face. The lower lid has become so flabby from lack of its

muscular support that it bags down full of tears that are caused by the wideopen palpebral fissure. It is becoming imperative that something shall be done to take up the slack in the lower lid so that the tears will no longer have this bag in which to accumulate. Two operative procedures have been thought of, and it is desired to hear from members of the society as to their experiences for the relief of such patients.

On discussion, Dr. Jackson believed cases just like this one were rare. He advised a V-shaped excision of the lower lid combined with Robertson's method of running an incision toward the temple and slipping up the flap. Even with operative procedures there would probably remain some excess of lachrymal secretion from the loss of lid motion.

Dr. Neeper reported a similar case relieved by excising a V-shaped piece from the lid. Two operations were required.

Dr. Black reported a case which had been caused by a street accident—a bicycle pedal had cut the patient's eyelid when he fell from it, leaving a vertical wound five-eighths of an inch in length that had penetrated entirely through the lid. The cornea was intact. The case was seen eighteen hours after the accident. Perfect result was obtained by stitching the opposing surfaces, allowing the sutures to go entirely through the lid.

Dr. E. W. Stevens reported a case of *dendritic keratitis* characterized by little pain or irritation, great stubbornness, and frequent relapses following periods of apparent freedom from the malady. His patient had been treated *persistently* with the following remedies in succession: Tri-chlor acetic acid, alcohol 95 per cent, applications of which were painless, though its application is usually the reverse of painless; carbolic acid; nitric acid, ung. hydrarg oxidi. flav.; iodine-vasogen, which had caused discomfort, but nevertheless its use had been persisted in; holocam, atropin, dionin, hot applications; internally, quinine and salicylates. There was no malarial nor kidney disease; there was, however, an excess of uric acid. Dr. Stevens reported the case to inquire of his colleagues if they had formerly encountered dendritis keratitis in Colorado.

On discussion, Dr. Bane reported having seen several cases; Dr. Patterson one case, which Dr. Jackson had seen in consultation. The other members reported negatively.

Dr. D. Coover showed specimens, photographs of patient and history of a case of papilloma of the cornea. (See October number of The Ophthalmic Record.)

Dr. Jackson exhibited *Zeiss Inter-ocular Distance Gauge.* Dr. Neeper exhibited a *proptometer* he had designed.

J. A. PATTERSON, Secretary.

Colorado Springs, October 27.

SECTION OF OPHTHALMOLOGY.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting October 20, 1903. Dr. Samuel D. Risley, chairman, presiding.

Dr. William Campbell Posey exhibited a man, aged 48, with *paralysis of the upward movements of the eyes.* All other extra-ocular muscle movements were good, with the exception of convergence, which was lost. The iris and ciliary muscle in each eye were unaffected. Peripheral and central vision were normal and there were no ophthalmoscopic changes. There was a history of alcoholism dating over a period of twenty-five years. Speech indistinct, bulbar in character; tongue tremulous; no involvement of the fifth or seventh nerve. Patellar reflexes exaggerated on each side. Vertigo upon change of posture for the past three months. The history was given of a second case, a female, aged 65, the loss of upward movement of the eyes following an apoplexy, as the result of which there was complete right hemiplegia. There was no hemianopsia. Eye-grounds were normal. The pupils were sluggish, both to light and accommodation. The lesion in both cases was thought to be in the corpora quadrigemina.

Dr. Posey referred to a recent article by Kornelow, which contains a full account of this class of associated palsies. Kornelow found twenty-seven cases in the entire literature, and of these but twenty were available for study. In one-half of these the affection came on suddenly, either as an apoplexy or in the form of an acute affection, with headache, vomiting, stupor, and increased temperature. Of the ten or eleven autopsies which have been made, neoplasms were found in eight; the tumors, for the most part, had not affected the corpora quadrigemina, but had involved neighboring parts. Kornelow believes that in order to explain the symptom-complex of associated movements, it is necessary to suppose the existence of a center of coördination about the nuclei; *i. e.*, in the corpora quadrigemina. He is of the opinion that these centers are located upon both sides of the brain, each being under the control of both hemispheres.

Discussion.—Dr. Hansell quoted an extract from Dr. Charles K. Mills' work on "Diseases on the Nervous System" in reference to a patient with symptoms resembling those of Dr. Posey's patient. "In this case (paralysis of the movements of upward rotation of both eyes) the trouble with vision began about four years before coming under observation, and for nearly half this time the patient had been troubled with diplopia. According to the report received from Dr. Hansell, the patient had had for two years paralysis of upward deviation of both corneas, it being impossible for him to raise his eyes beyond the horizontal plane. The left eye diverged slightly, but there was no true lateral paralysis. The pupils were equal, reacting to light, and accommodation both individually and consensually, but their movements were sluggish. The right field was concentrically contracted to a decided degree and slight concentric limitation was present on the left. The media and fundi were healthy. The central acuity of vision was 20-40 in the right eye and 20-30 in the left. Examination showed slight difficulty in speaking. The tongue protruded slightly and a little to the left, and the patient showed some tendency to drooling. He complained of a general feeling of weakness in both legs. Both knee-jerks were exaggerated, and a slight, probably spurious, ankle clonus was present on the left. It is not improbable that in this case the lesion present was one of the nuclei or root fibers, and was similar to the lesions recorded in the few cases in which autopsies have been placed on record." Death occurred a few months later, but no autopsy was secured.

Dr. Spiller said that the paralysis of lateral conjugate movement is more easily understood than is the paralysis of upward or downward conjugate movement of the eyeballs. A few cases have shown that the former may be caused by a lesion destroying the connection between the sixth nucleus of one side and the third nucleus of the other. A case that he was able to observe clinically with Dr. C. S. Potts, and to study by microscopic sections, showed that involvement of the posterior longitudinal bundle in the pons may cause the paralysis of lateral associated movement. The patient had complete paralysis of the left external rectus, and was unable to look toward the left with either eye, but the contraction of the right internal rectus was good in convergence. A solitary tubercle was found in the left half of the pons, destroying the left posterior longitudinal bundle, and compressing the fibers of the left sixth nerve within the pons, but not invading the nucleus of the left sixth nerve.

The paralysis of upward or downward conjugate movement of

the eyeballs is more difficult to understand, because the cases with necropsy are very rare. Most cases are complicated by symptoms indicative of a lesion in the region of the corpora quadrigemina. In Dr. Posey's first case there were vertigo, some ataxia, a peculiar bulbar speech, and paralysis of convergence. Tumor is probably the most common cause, but the polioencephalitis superior of Wernicke probably also may be a cause, and the seat of the lesion is probably in the corpora quadrigemina.

In reply to a question of Dr. Oliver, Dr. Spiller said that he did not believe it was possible to obtain electrical contraction of any of the recti muscles with any current that it would be safe to apply near the eyes. He believed that he had been able to obtain contraction with the galvanic current in the levator palpebra superioris in a case in which the paralysis of the oculomotor nerve had not existed long. This muscle is sufficiently near the surface to give a response to the galvanic current when its galvanic irritability is increased in early degeneration.

Dr. Charles A. Oliver gave a detailed history with the results of the microscopic findings of *a case of enucleation for glioma of the retina in* 1892; *without any recurrence of the disease to date* (1903). The case was of interest for several reasons:

(1) The length of time which has elapsed without a recurrence, which he accounted for by the plastic and cicatricial material occluding the channels for the exit of the anterior and middle lymph-stream and blood-currents with the presence of an enormous old organized blood-clot in the subretinal spaces, the atrophy of the optic nerve, and the occlusion of the vascular and lymph channels in the optic nerve itself and its surrounding coats.

(2) The noninvolvement of the fellow-eye. In spite of the long period of time which has ensued since the removal of the affected organ and the increased age of the patient, this must still remain *sub judice*, because some of the glial cells of the retina of the healthy eye may be in a condition for faulty growth and perverted action, thus giving rise to a possibility for independent disturbance.

(3) The age of the patient (9½ years), and the presence of the nests or rosettes.

Some Cases Illustrating Congenital Anomalies of the Eye.—Dr. G. E. de Schweinitz reported *symmetrical dislocation of the crystalline lenses* into the pupil areas, which have occurred in a Hebrew girl aged 6½ years, who presented the general characteristics of rachitis and had had convulsions in childhood. Each crystalline lens

was dislocated forward and occupied the center of each pupil area, precisely as a flat cork would be fitted into a circular aperture through one-half its depth. In other words, each lens was so placed in the center of the widely dilated pupil that the margin of the iris encircled its equator, a zone, equalling less than a millimeter in width, existing between the edges of the lenses and the borders of the iris. This condition was said not to have been congenital, but to have developed after an illness. The refraction of the eye was highly myopic. There were no lesions in either fundus.

He also reported *posterior lenticonus* of the left eye in an American girl, aged 11, the general refraction of the eye being a high hypermetropic astigmatism. The refraction through the center of the cone was myopic 21 D. There were no opacities in the lens or in the cone. The fundus of the eye was normal.

He further recorded four cases of *congenital upward and outward dislocation of the lens,* bilateral in all instances, the lenses being cataractous in one patient, and discussed briefly the methods of operative interference, giving it as his opinion from a review of the literature of the subject that discission of the lens offered the best chances of operative success.

He also reported a case of *bilateral coloboma of the iris, upward and outward.* The colobomas were complete, that is, they extended to the ciliary border and occupied one-fifth of the iris circumference. The lens of the right eye was cataractous from injury; of the left eye clear and the fundus normal. There were no other congenital anomalies in the eye.

Discussion.—Dr. C. A. Veasey exhibited a young girl with *congenital irideremia* of the left eye accompanied by zonular cataract. There was complete atrophy of each optic nerve. He also showed a water-colored sketch of a case of bilateral coloboma of the iris and lens, downward and outward, occurring in a young man. There was no defect of the choroid. The iris defect extended to the periphery. Dr. Harlan referred to a case of complete absence of the iris and upward dislocation of the lens, the latter being partly opaque. In a case of upward dislocation, with normal iris, discission was followed by severe iridocyclitis and subsequent atrophy of the globe. In a case of complete dislocation into the vitreous of each eye he had extracted the dislocated lens with a loop, no reaction occurring and good vision being secured. Dr. Posey said that he had done a discission on both lenses of a boy 5 years old who had congenital dislocation upward and outward. Two needlings were necessary to remove

the lens in each eye. Although there was some reaction following both operations—due, probably, to a second needle which was entered into the sclera, posterior to the lens, in order to fix the same—the eyes recovered with clear media and excellent vision. A month after the completion of the last operation, however, the child suffered a traumatism in the left eye, as a result of which the retina was detached and iridocyclitis excited, causing the ultimate loss of the ball. Dr. Ziegler called attention to a case he presented to the section five years ago, in which he had secured excellent vision after discission. The absence of inflammatory reaction he ascribed to the laceration of the free edge of the lens capsule rather than the central portion. Dr. Risley avoided discission in these cases, as the rapid swelling of the lens which usually followed was prejudicial to the safety of the eye, because of the peculiar location of the lens in relation to the iris and ciliary body.

Dr. H. F. Hansell reported *two unusual forms of keratitis, probably rheumatic in origin.* He regretted the clinical division of keratites, based upon the most prominent sign at the time of examination, and advocated classification according to etiology or pathology. The first case exhibited latice-work, deep infiltration occupying about one-half of the cornea and accompanied by two superficial vascular ulcers. The infiltration was white in color, the lines separated from each other by unaffected clear tissue, and ended abruptly in healthy cornea. Later each line of opacity became permated by a single blood-vessel. Several remedies were tried, but the symptoms did not improve until after the free administration of the salicylates and arsenic. The second case was one of the numerous forms of superficial punctate keratitis. About twenty-four small gray dots were scattered throughout the cornea and were located immediately below Bowman's membrane. The anterior chamber was deep and the tension raised. The prominent symptoms were eccessive lachrymation and severe photophobia. Under eserin and hot-water bathing the spots were absorbed in a few days, and their disappearance was followed by an attack of acute scleritis requiring the salicylates for its cure.

Dr. James Thorington exhibited a boy, aged 12, with a *powder grain in the vitreous* of the right eye. The injury followed the premature discharge of a small cannon, and the grain of powder passed through the upper quadrant of the cornea, iris, and lens, and could be plainly seen in the anterior portion of the vitreous, moving upward

and downward with vertical rotation of the eyeball. In the left eye there was congenital cataract.

Dr. J. L. Borsch exhibited (by invitation) two vials containing specimens of the chloride of the new element *radium* of different strength of radio-activity, and detailed the tests now in progress in Paris in the treatment of superficial growths with the new substance. He cited a case of toxic amblyopia from sulphide of carbon, not relieved by other remedies, in which vision increased from one-eighth to one-third after radium had been applied five days. Its power to relieve pain was shown in a case of iritis and one of ophthalmic migraine. He cautioned against the use of too-high radio-activity in ocular disease. As to the claims made of the value of radium in restoring sight in cases of optic atrophy, Dr. Borsch said that its value could be determined only after a complete and scientific record was given of each case.

WILLIAM M. SWEET, M. D., Clerk of Section.

REPORT OF THE DETROIT OPHTHALMOLOGIC AND OTOLOGIC CLUB.

REPORTED BY WALTER R. PARKER, SECRETARY.

Regular meeting held October 6, 1903. Dr. Campbell presented a paper entitled *Episcleritis.* Published in full on page 517.

Discussion.—Dr. Maire gets his best results in rheumatic cases from the administration of sodi salicylat in large doses given in essence of pepsine. Atropin is indicated if pain is marked symptom. The cause is often obscure. Certainly it is some cause other than rheumatism.

Dr. Smith for many years has followed the atropin treatment. For the past twenty years he has used eserine together with potassium iodid. Now he uses sodi salicylat in large doses. About a year ago he began the use of pneumatic massage and has had good results. We must differentiate between episcleritis and scleritis. Adrenalin chloride will bleach the eye, but its use may be followed by severe pain. He is very cautious in its use in this class of cases. Many cases diagnosed in children phlyctenular conjunctivitis are undoubtedly cases of episcleritis. They look like phlyctenular conjunctivitis, but the nodules do not go on to ulceration.

Dr. Gillman as a student was taught that all cases of episcleritis were due to syphilis or rheumatism. Now he believes most cases

occur in high livers between the ages of 20 and 30 who have no history of syphilis or rheumatism. He gets the best results from subconjunctival injections of bichloride of mercury, five or six drops of a 1-1000 to 1-10000 solution injected every six or eight days. In one case in which he used pneumatic massage it failed.

Dr. Thuner thinks syphilis a frequent cause, when inunction of mercury affords the best treatment. Better to give one large dose of sodi salicylat than divided doses.

Dr. Remaud uses large doses of sodi salicylat in brandy. We hear much about large doses of sodi salicylat now and many think it a new idea. He wishes to read extracts from letters written by Dr. Lundy in 1888:

"For about three years I have used the salicylates with very gratifying success. In one patient the disease had existed for months. The sclera was so thinned at points that the pigment of the ciliary body and choroid showed itself. Under the use of the salicylates the patient was well in less than three weeks, but showed a slight tendency to relapse a couple of weeks later, but on resumption of treatment she recovered in a few days. Indeed, so certain has this course been that in three years no case of episcleritis has remained under treatment for a month, and every one which I have seen has been cured, and most of them in two or three weeks, or even less. I now use cocaine locally, and sometimes atropine also. In giving the salicylates I keep the patient well under the influence of the drug *all the time* till a decided change shows itself in the diseased parts. It is necessary to maintain the well-marked physiological action of the drug, and if this is not done the results will not be satisfactory. Indeed, I have had such success in treating this disease for the past three years that I feel no more concerned as to the result than if called upon to treat an ordinary case of acute catarrhal conjunctivitis. I have given as much as 200 grains of salicylat of sodi in twelve hours, but it is rarely that a patient needs or can take so much."

Dr. Goux thinks episcleritis is always associated with large doses of sodi salicylat. He has followed Dr. Gifford's rule of one grain per pound per day, given in brandy. The good results are probably due to depletion and dilation.

Dr. Parker has been especially interested in Dr. Lundy's letters. He thought the idea of very large doses of sodi salicylat new. But these letters show how far ahead of their time certain men are. Whether to use eserine or atropine depends on whether the uveal tract is involved or not. If it is not involved the portion of the cir-

cumcorneal zone between the inflamed area and the cornea will be well marked and free from congestion. In these cases eserine is safe.

Dr. Campbell believes acute episcleritis may be early manifestation of rheumatism. The cases of high living spoken of by Dr. Gillman are probable due to acute infection. He has not found syphilis a common cause, and thinks Dr. Smith is probably correct in believing many so-called cases of phlyctenular conjunctivitis to be episcleritis, especially the non-ulcerative type. Give all the sodi salicylat the patient will stand. It is hard to get a pure salt of sodi salicylat. Merks is undoubtedly the best.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, OCTOBER 29, 1903.

John Tweedy, F. R. C. S., President, in the chair.

The president delivered his opening address, in which he briefly sketched the history of the society. He drew attention to several of the past presidents and made a feeling allusion to the recent death of one of the oldest members of the society, Mr. George Lawson.

Tumor of the Choroid in an Eye Suffering from Old Choroiditis.—This case was related by Mr. Nettleship. The patient was a female aged 24 who had lost the use of the right eye. The eye was quite blind and in a condition of absolute glaucoma. The eye was removed by Mr. Nettleship in 1894 and when last heard of six years later the patient was in good health. There was a doubtful history of tuberculosis in the family. The vision of the eye was defective when the patient was 15 years of age from detachment of the retina. There was a bulging in the ciliary region and as the eye was painful it was removed. There was a large staphyloma near the ciliary region on the outer side and corresponding to this internally there was an angiomatous sarcoma, the cells were round and oval and it was somewhat pigmented. This was surrounded by a stratum consisting of fibrous tissue in which there was much cholesterine. The optic nerve was atrophied and there were one or two outlying nodules. Probably hemorrhage was the origin of this.

Mr. J. H. Parsons thought the case was almost unique. Fuchs and Leber had collected cases associated with shrunken globes and definite cyclitic changes. He thought the condition suggestive of necrosis of the sarcoma.

Tumor of the Choroid Associated with Iritis.—Mr. J. H. Fisher described this case. The patient was a woman aged 52 whose left eye he had excised in October, 1902. Six years before, there was a cataract with detachment of the retina ascribed to a blow. The eye was removed on account of pain. A small vascular spindle celled growth was found near the entrance of the optic nerve. It was pigmented and hemorrhagic and showed some signs of necrosis. A column of sarcoma cells could be traced along one of the posterior ciliary nerves.

The speaker discussed the possible transmission of material from one eye to the other as in those doubtful cases where sympathetic disease has been said to follow similar conditions.

An Anomalous Case of Tobacco Amblyopia.—Major F. O'Kinealey described this case. The patient was an Irishman aged 42 with a specific history. He had lived in India nearly all his life and was a clerk. He had been a very heavy smoker, accounting for as many as 500 Burmah cheroots per month of the cheap and rank variety. The vision was only 4/60 and J. 18. There was a central defect in both eyes and a limitation of the fields of vision for white. There were several irregular shaped scotomata situated about the fields of vision. Tobacco and alcohol were cut off and strychnine and iron were given with pilocarpine. Four months later the vision was restored to 6/6 and J. 1 with glasses, though the fields were even more contracted and the multiple scotomata had run together into a complete ring, color perception was still defective. The speaker also cited another patient, a Eurasian, who from the same cause reduced his vision to J. 18 with loss of fields for red and green and yellow; in 2 months he improved to 6/9 and J. 1. The scotomata disappeared and color vision returned.

Mr. Lang referred to a statement made by Wingrave that he had observed a corresponding defect in hearing in patients suffering from tobacco amblyopia which had improved, with the vision, after giving up tobacco.

Mr. Nettleship commented on the unusual occurrence of a further reduction of fields while the vision was improving.

Mr. Holmes Spicer thought that a syphilitic retinitis might have had something to do with both cases, but Major O'Kinealey said there was not the slightest evidence of this condition being present.

Mr. Johnson Taylor said he had never seen deafness associated with tobacco amblyopia.

The Pathological Anatomy of the Plaques in Epithelial Xerosis.

—Mr. Mayou described this condition and drew his observations from six typical cases. The plaques were situated on either side of the cornea and covered with bubbles of Meibomian secretion. The Xerosis bacillus was found in five of the cases. Sections showed that they adhered only to the surface and did not penetrate. He gave his reasons for not considering these the cause of the disease.

The changes in the epithelium were those due to exposure and the superficial layer showed a well marked layer of keratin on the surface. Beneath this was a layer of keratohyalin. There was a complete absence of cells showing mucoid degeneration.

Mr. Mayou thought that the mucin cells were one of the most important factors in bringing about hydration in the normal conjunctiva and that therefore the essential change was keratinization of the epithelium due partly to exposure, and partly to deficient lachrymal secretion occurring in children of delicate health, and that the Meibomian secretion and organisms were simply adherent to the plaques owing to the altered surface tension due to keratinization of the epithelium and the absence of mucoid changes therein.

Major Herbert said that he had observed similar changes in other mucous membranes. He attributed these bad cases of xerosis to an absence of the mucoid cells, in the lining epithelium.

The following card specimens were shown:

Mr. G. H. Goldsmith—*A Case of Retinitis Proliferans.*

Mr. W. Adams Frost—*A Demonstrating Ophthalmoscope.*

Mr. R. W. Doyne—*A Case of Varicose Retinal Veins with Thrombosis.*

Messrs. Doyne and S. Stephenson—*A Case of Retinitis Circinata.*

Mr. W. H. Jessop—*A Case of Proptosis.*

C. Devereaux Marshall.

CORRESPONDENCE.

CORRECTIONS OF THE PAPER ON "SOME FORMS OF IRREGULAR ASTIGMATISM, ETC."

EDITOR THE OPHTHALMIC RECORD:

Having noticed some seemingly careless errors in my recent paper in the October issue of the RECORD, which are calculated to confuse the reader, I beg to offer the apology that I was ill at the time before it was finished and lost track of my notes in the meantime.

In describing, on page 491, the method of proceeding when the cylinders are of opposite signs, I failed to state that after following the rule italicized, *the resulting cylinder is alway plus.*

Thus, in the case given, the diagonal of the constructed parallelogram indicates a 1.50 cyl. at 175°. Now, 175° being equal to 2Y, and the cylinder being plus, the sphere is

$$\frac{+1.00+(-1.25)-(-1.50)}{2}=-0.87\text{s.},$$

and the axis 87°=Y.

The equivalent sought is therefore —0.87s.⊂+1.50 cyl. axis 87°, or, +62s.⊂—1.50 cyl. axis 175°.

That the diagonal indicates 175° in this case is simply a coincidence. For if my diagram be used to get the equivalent of, for instance: +1.00 cyl. axis 30°⊂—1.00 cyl. axis 140°, the two points on the circle of 1 D. will be at 80°, and 100° (280—180), and the resulting cylinder as indicated by the intersection of the little arcs is +1.75 cyl. axis 80°. But we have to halve the 80° and write: +1.75 cyl. axis 40°, and the completed equivalent is —0.87s.⊂+1.75 cyl. axis 40°, which, of course, is the same as +0.87s.⊂—1.75 axis 130°.

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THE TERMS ANTIMETROPIA, ANISOMETROPIA AND BRACHYMETROPIA.

EDITOR OF THE OPHTHALMIC RECORD:

Dear Sir: In the October RECORD there appeared two communications, one by Dr. Suter, another by Dr. Claiborne, in which rather vain endeavors were made to refute certain of my statements

concerning *"refraction terms."* Permit me to briefly answer these gentlemen.

Both accept Donder's term of *"emmetropia"* as very satisfactory, definite, and beyond reproach. Very good indeed. Now Donder's conception of *"emmetropia"* as regards the *coining* of the *terms,* was as follows: What *relation,* as to position, *does* the *focus* for *parallel lines* bear to the retina (the eye at rest) and *not* what relation does the *retina* bear to the focus. As to refractive errors, which way must *this* focus (*apparent* or *real*) for parallel lines be shifted so as to be just *"at"* the retina—*forward* or *backward?* Again, in these errors does the *focus* (apparent or real) for incident parallel lines fall *in front of* (short of) or *behind* (beyond) the *fixed screen* (retina)? Is it not more logical to endeavor to bring a *changeable point* (focus) *into relation* as to *position* with a *fixed* screen (retina) than to try the "opposite"?

On the above ideas these various *disputed* terms are founded. To these ideas I have *adhered* and *reverted.* Now, therefore, as Drs. Suter and Claiborne *accept* emmetropia, they can not but help accept the points in my original article (published in the August RECORD).

Priority was *not,* as Dr. Claiborne thinks, an issue. *None* was ever claimed. Due credit in this matter *was fully accorded* to Dr. Claiborne.

If both gentlemen will *again carefully* read the original article, they will *then* clearly see that their objections are surely *only apparent* and *far from real.* Furthermore, they will also readily see that in some instances I was *misquoted.*

GEO. F. SUKER, M. D.,
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ABSTRACTS FROM CURRENT OPTHALMIC LITERATURE.

BY FRANK C. TODD, M. D., MINNEAPOLIS, AND EDWARD A. SHUMWAY, PHILADELPHIA.

For the Extirpation of the Lachrymal Sac.—Dr. Arnold Knapp (*Archives of Ophthalmology*, July, 1903,) gives the following instructions:

A. 1.—Chronic purulent dacryocystitis; if of long standing and antiseptic treatment has not succeeded in curing the suppuration or if the sac is dilated. In this group of cases the great danger to the eye in possible corneal affections should not be lost sight of.

2.—Repeated attacks of acute dacryocystitis with abscess.

3.—Whenever the sac is dilated whether the contents can be expressed or not.

4.—Lachrymal fistula.

B. Local or general anæsthesia may be employed, the former being suitable only in the absence of acute inflammatory conditions. The incision begins just below the internal canthal ligament and passes down and out along the prominent orbital margin for from 1½ to 2½ cm. through the subcutaneous tissue and the anterior fibers of the aponeurosis until the sac itself is exposed.

Hemorrhage can generally be thoroughly controlled by a suitable introduction of the retractors and by compression. The sac is then isolated by blunt dissection from its inner wall; proceeding upward the cupola is freed and the sac can be more or less lifted out of the fossa. The outer surface, usually more adherent, has to be separated by cutting with a pair of small, blunt scissors, the attachment above and outward to the canaliculi being carefully separated.

The sac is cut off as low down in the lachrymal canal as possible and the canal is thoroughly curetted with a small spoon. A careful inspection is now made of the walls, and especially of the roof of the lachrymal fossa, with a view of detecting any remaining islet of mucous membrane, granulations, inflamed periosteum, or carious bone. These possible complications must all be properly met and radically treated. If the bone on the inner wall (lachrymal bone) should prove to be diseased and superficial curetting be deemed not sufficient, a free opening should be made right through this into the nose. This enables the removal of the diseased bone and also insures proper

drainage, the opening entering the nose in the anterior part of the middle meatus just below the head of the middle turbinal.

The operation is concluded by the exact approximation of the wound edges with two or three sutures, and the cavity is obliterated by proper pressure, and this pressure must be kept up in the dressings for the next few days.

On Recurrent Formation of Vesicles on the Cornea and Keratalgias after Injuries of the Surface of the Cornea.—Dr. W. Stood, Barmen., translated from *Arch. f. Augenheilk.*, xliii., 4 (1901), by Dr. Ward A. Holden (*Archives of Ophthalmology*, January, 1903).

Among about forty thousand cases of eye diseases he has recognized this clinical picture sixty times.

In the beginning there is a superficial injury of the cornea usually caused by a sudden, rather blunt force. The result is a more or less extensive scraping off of the epithelium. The membrane of Bowman so far remains uninjured, the injury heals in a few days, and the patient believes that the recovery is to be permanent. There is neither pain nor inflammation, and vision becomes normal again. After some weeks, or even as long as six months, the patient experiences pain on awaking and feels that he can not open the eye or raise the upper lid, which seems to be adherent to the ball. If the eye is forcibly opened considerable pain is caused, lachrymation ensues, there is photophobia, and winking is painful. After half an hour or an hour the symptoms subside and the patient may be able to take up his usual work. Examined at this time, a clear vesicle will be found beneath the epithelium, or a slight displacement of the epithelium at the sight of the previous injury. Later in the day often nothing abnormal is to be found. As a rule there are recurrences after intervals of varying length, sometimes as long as three to six months, with eventual recovery. The intervals are frequently broken by mild attacks of pain in the morning, though sometimes the patient is even at this time free from annoyance.

From my observations I have concluded that the process is not a neuritis of the nerve-endings in the corneal epithelium with consecutive trophic disturbances, as many writers maintain. I would seek the explanation in the anatomical relations of the deepest cylindrical layer of epithelium, which, according to Rollett, Lott and Langerhans, adheres to Bowman's membrane by means of little processes which pass into the clefts and furrows of the membrane. In the forcible injury the entire epithelium is stripped off for a distance and perhaps Bowman's membrane is crushed in its anterior layers, so that

the new epithelial cells pushing in from the margins of the defect find an altered base upon which to rest, and their adhesion to it is less strong. The new-formed epithelium rather rests simply upon Bowman's membrane, and at night it becomes attached to the lid, and is loosened and its nerve-endings injured when the lids are opened. There follows then a passage of liquid from the parenchyma of the cornea through the nerve canals in Bowman's membrane so that a vesicle is formed.

If the vesicle is large, the overlying epithelium is so altered in its nutritive relations that it breaks down. If small, when the eye is opened the subepithelial transudation is absorbed.

In these cases I can heartily recommend the treatment with salves and massage, and I believe that we need not longer resort to the sharp spoon, the galvano-cautery, puncture of the anterior chamber, or excision of the affected portion of the cornea.

Periscopic Lenses.—A. S. Percival (*Archives of Ophthalmology*, July, 1903,) gives the following table for grinding of periscopic lenses:

Power.	Anterior Surface.	Posterior Surface.
— 1 D	+5.5 D	— 6.5 D
— 2 D	+5 D	— 7 D
— 3 D	+4.5 D	— 7.5 D
— 4 D	+4 D	— 8 D
— 5 D	+3.5 D	— 8.5 D
— 6 D	+3 D	— 9 D
— 7 D	+2.5 D	— 9.5 D
— 8 D	+2 D	—10 D
— 9 D	+1 D	—10 D
—10 D	Plane	—10 D
—12 D	———	—12 D
—14 D	———	—14 D
—16 D	—.5 D	—15.5 D
+ 1 D	+ 6 D	— 5 D
+ 2 D	+ 8 D	— 6 D
+ 3 D	+10 D	— 7 D
+ 4 D	+12 D	— 8 D
+ 5 D	+13 D	— 8 D
+ 6 D	+15 D	— 9 D
+ 7 D	+16.5 D	— 9.5 D
+ 8 D	+17.75 D	— 9.75 D
+ 9 D	+19.5 D	—10.5 D
+10 D	+21 D	—11 D
+12 D	+23 D	—11 D
+15 D	+27 D	—12 D

The Mental Derangement which is Occasionally Developed in Patients in Eye Hospitals.—Dr. Charles J. Kipp, Newark, N. J. (*Archives of Ophthalmology*, July, 1903), reports twelve personally observed cases, ten following surgical and two after traumatic injuries. All of the patients were poor, some of them paupers, and did not belong to the educated class. They were all treated in the wards of eye hospitals, some in darkened, but the greater majority in well-lighted, cheerful rooms. Some had been alone, but most of them had been in rooms with others; some were confined to bed, others were dressed and were sitting up and walking about the wards. Only one had both eyes covered when the mental trouble set in. All of the others had either only one eye covered by a shield or had both eyes open when the first symptoms showed themselves. Some had good sight in the uncovered eye, the others had more or less impaired vision in it. Some came from the city, but most of them from some distance. Both sexes were represented, but males predominated.

The youngest patient was about 30 years af age, the majority were over 50. All were in good general health, and were not suffering pain in their eyes when the outbreak occurred. Most of the cases had been in the hospital more than a week and some only a few days. A solution of atropine had been instilled several times daily, but in a few no mydriatic of any kind had been used before the outbreak.

Dr. Kipp quotes Sichel as the first having called attention to these psychoses occurring after cataract operations, his cases (eight) all being old people. He speaks of the patients being "depayses."

Schmidt-Rimpler calls this mental state "paranoia hallucinatoria," objecting to the term delirium. They have never seen this complication in educated people.

Dr. Harlan is quoted as never having observed mental derangement if he had treated these patients at their homes; he therefore calls it home-sickness, nostalgia. He thinks that these phychoses are the result of a change in environment and to increasing longing to get away from the new surroundings.

Dr. Kipp records complete recovery from the mental trouble in all cases in which he could return them to their homes immediately after the outbreak. A considerable improvement followed having members of the household stay with them and by transferring them to other quarters.

Double Optic Neuritis Complicating Whooping Cough.—William E. Gamble, M. D., Chicago (*Archives of Ophthalmology*, July, 1903), finds in literature reports of three cases of optic neuritis complicating

whooping-cough. He gives the full report of these cases in addition to the report of his own case, and also includes an abstract of a case of ischemia of the retina by H. Knapp. Cases reported were those of Alexander, Jacoby and Callan.

Conclusions: 1. Optic neuritis complicating whooping-cough seems to occur most frequently in girls (four cases, all girls).

2. It occurs with or without evidence of cerebral complications.

3. Vision may or may not be disturbed.

4. Prognosis as to sight good when no cerebral complications exist.

5. That optic neuritis may result from direct action of toxins of pertussis upon the head.

On Sclerosis of the Choroid with Secondary Degeneration of the Retina.—Dr. Georg Levinsohn, Berlin, translated by Dr. W. A. Holden (*Archives of Ophthalmology,* January, 1903). Clinical observations on changes in the choroidal vessels have hitherto rarely been made, because of the difficulty or even impossibility of recognizing slight alterations in vessels that are covered by a membrane. Furthermore, affections of the choroid usually soon involve the retina also, which loses its transparency and prevents an accurate examination of the choroid. Therefore the observations hitherto made of changes in the choroidal vessels visible with the ophthalmoscope have been limited to the marked changes which age brings about, namely, sclerosis of these vessels.

Dr. Levinsohn gives his observations of a patient as follows: "The pupils are slightly irregular in form and react sluggishly to light in convergence. In both lenses are slight senile changes limited to the equator. The posterior portion of the vitreous is free. The condition of the fundus also is nearly identical in both, so only the left fundus need be described. The disc has a red color, but on the whole appears pale. The veins are slightly constricted, the arteries markedly so. About the disc the fundus presents the picture of advanced atrophy of the choroid. This may be divided into three zones. The disc is surrounded by a narrow light zone, yellowish-red in color, broken below by a small patch of normal red color. To the macular side is a light red area, about 3 p. d. in diameter, whose center, corresponding to the macula, appears dark red. To the nasal side and above and below the disc are large white or yellowish fields, between which isolated bits of red fundus can be seen. The limits of

these white fields and the light red macular area are characterized by brown pigmentation of the choroid. There then follows a broad circular zone reaching to the equator, which is noticeably lighter than the normal fundus, and in it the choroidal vessels are clearly seen enclosed in more or less intensely white sheaths, sometimes, however, bordering one side of the vessel only. At some points the blood column is no longer visible and the vessel is indicated by a white stripe. The arrangement of the various vessels is manifold. Occasionally white-sheathed vessels or white stripes pass over into normal red vessels; the latter then are mostly very tortuous.

The white-sheathed vessels can be followed into the circumpapillary zone, and in the other direction out beyond the equator. Here and there, besides the white fields, small areas of white color are visible, into which usually a small vessel enters. It is noticeable that the vessels entering the venae vorticosae exhibit the same changes, though in lesser degree. The twigs coming from the anterior part of the fundus and the main trunks have a normal appearance, but the branches posteriorly mostly have white sheaths. From the equator forward the fundus has a fairly normal appearance, except for the presence of small round atrophic choridal patches.

Abducens Paralysis. Seggel (*Münch. med. Wochensch.* No. 18, 1903,) reports a case of bilateral paralysis of the sixth nerve, with paralysis of lateral movements. The patient was a shoemaker, 62 years old, who came for treatment of choked discs. In the course of the disease diplopia appeared, and two and a half months after the first consultation the following conditions were found: Paralysis of the right abducens nerve, with consecutive paralytic convergent strabismus; paralysis of lateral movement toward the right, *i. e.*, the left eye did not follow the finger toward the right. The movement of the left eye inward when the right eye was closed was not normal, but was present, and was perfectly normal in convergence. As right-sided facial paresis with lagophthalmus appeared later, a diagnosis was made of tumor of the pons in the region of the abducens and facial nuclei, with pressure symptoms in the cerebellum (vertigo). During the following month left-sided abducens paresis, right trochlear and hypoglossal paralysis, and bilateral optic atrophy were added. Shortly afterward exitus letalis. The autopsy revealed a solitary tubercle in the upper part of the pons, below the floor of the fourth ventricle. Seggel assumed that the tumor began in the nucleus of the right abducens, involved the knee of the facial, and finally the left abdu-

cens. Below the right hypoglossus nucleus, and above the trochlear nucleus were affected, while the *oculo-motor nucleus* was free. Consequently the limitation in the movement of the *left* eye toward the right was a paralysis of lateral movement, and not a paralysis of the internus, a confirmation of Bernheimer's results that processes in the abducens nucleus cause loss of movement of the contra-lateral internus and associated paralysis of lateral movement; as, according to Bernheimer, "at the same time the contact-connections between the ganglion cells of the abducens are destroyed, which normally influence the nucleus of the internus through the posterior longitudinal fibers." Seggel concludes further that nuclear paralysis of the abducens can only be made with certainty, when paralysis of lateral movement toward the same side is present, while in simple paralysis of the abducens (as frequently found in connection with rheumatism), disease of the nucleus may be excluded. Seggel calls attention to the fact that abducens paralysis is often the first symptom of brain tumor, even when this is not in the vicinity of the nucleus, as the nerve trunk is readily compressed by the increasing cerebral pressure in its long course at the base of the brain.

The case shows, further, that in tumors of the pons the facial paralysis involves not only the branches to the mouth, nose and lips, but also those to the orbicularis and frontalis. (*Rev. in Wochensch. f. Therapie u. Hyg. des Auges,* July 31, 1903.)

Eumydrin.—Goldberg (*Wochenschr. f. Ther. u. Hyg. des Auges,* August 13, 1903) has made experiments on the action of the new mydriatic eumydrin on the pupil and accommodation in Prof. Schnabel's clinic in Vienna. He found that a one per cent solution acts from five to eight minutes quicker than a 1-1000 solution of atropine, producing a dilatation of from 2.5 to 3 mm., and that its effect disappears toward the end of the second day, while that of the latter is present still on the fourth day. It acts more rapidly and thoroughly than homatropine solution of the same strength, and its effect lasts about twelve hours longer. In pathological conditions the mydriatic effect seemed to be about the same as that of one per cent atropine, but it is not so lasting. Moreover, the drug produced no increase of pressure or other untoward phenomenon either in the normal or diseased eye.

Primary Atrophy of the Choroid, with Sclerosis of the Vessels, "Atrophia alba Chorioideæ."—Cuperus (*Archiv. f. Augenheilk.,* September, 1903) reports the case of a man, 70 years old, whose central

vision had gradually failed since his 30th year. His eyes had never been inflamed, and hemeralopia had never been present. Syphilis was denied and the general health had been good. In the right eye vision was reduced to the ability to count fingers at 10 cm., excentrically, and in the left to fingers at 25 cm. The visual fields were of normal extent, but showed an absolute central scotoma in each eye; colors were poorly recognized in the periphery. The pupillary reactions were normal. With the ophthalmoscope the fundus showed a striking white appearance of the central portion, including the papilla and macular regions; further toward the periphery it was light brown, and in the extreme periphery the normal red color of and fundus was present. At the posterior pole the choroidal vessels were chalky white, and contained no blood, standing out prominently even against the white color of the fundus. Scattered through the fundus, especially along the retinal vessels, were deposits of pigment. The optic nerve was light gray in color, and was completely excavated. The retinal vessels were narrow and the smaller ones had disappeared. Exactly the same conditions were present in a brother of the patient, while another brother and a grandmother had become blind under the same circumstances, the vision having gradually failed at about the same age. For this condition Cuperus proposes the name of "atrophia alba chorioideæ." From retinitis pigmentosa, and "atrophia gyrata chorioideæ et retinæ" of Fuchs, it is to be distinguished by the absence of hemeralopia and the difference in the fields of vision. From chorio-retinitis luetica, by the absence of areas of old inflammation in the retina and choroid, of vitreous opacities and changes in the lens or iris. Clinically it is notable for the marked involvement of the central portion of the eye-ground, which causes a reduction in central visual acuity and an absolute central scotoma.

Concerning Some Modifications of the Operations for Ptosis.—While many cases of ptosis are due to complete paralysis of the levator palpebræ superioris, there are a certain number, especially of the congenital form, in which the condition is due to a relative insufficiency or a simple stretching of the muscle. In determining whether the levator still has some action, Lapersonne (*Arch. d' Ophtal.*, August, 1903,) places his hand upon the forehead of the patient in order to exclude any action of the frontalis. If the patient can still raise the lid, the levator functionates, and its energy is measured by the amount of cornea exposed. For paralytic ptosis Lapersonne thinks

that the best results are obtained by Panas' operation, the only objections being that the scars are apt to be prominent and that the application of the skin of the lid to the deeper surface of the forehead causes some desquamation of the skin from time to time. In some cases he has used a modification of Angelucci's operation, in which the tendon of the levator is attached to the frontalis by means of threads passed beneath the eyebrow. After having detached the tendon and fixed it by means of two threads, he makes a longitudinal incision above the brow, and joins this by a tunnel with the palpebral incision, as in the Panas operation. Through this tunnel the threads holding the levator tendon are passed and attached to the upper edge of the frontal incision; they may be drawn more or less tightly according to the case. The skin incisions are then closed by superficial sutures. He believes this method better than Motais' suggestion to use the superior rectus instead of the frontalis.

When the muscle is insufficient or too long, he advances the levator, performing the operation under a general anesthetic as follows: A metal plate is introduced into the upper cul de sac and a long incision made, 4 or 5 mm. above and parallel with the lid border, including skin and orbicularis. The edges of the incision are separated and the tarsus and the tendon of the levator are exposed. Two small vertical incisions are then made on each side of the tendon, down to the conjunctiva, and a strabismus hook is introduced beneath the tendon. Two sutures are passed through the tendon above the hook, one on the outer and one on the inner side of the tendon, the tendon is cut and the sutures passed through the tarsus 2 or 3 mm. above the lid margin and tied. The tendon is thus advanced and should attach itself firmly to the anterior surface of the tarsus. The operation may be completed by excising a piece of the skin and orbicularis from the lower flap and uniting the lips of the wound by superficial sutures. Lapersonne has had good results in four cases operated upon in this way.

Stellate Cauterization of the Cornea.—Pechin (*Arch. d'Ophtalmologie*, August, 1903,) strongly recommends Dianoux's method of cauterization of the cornea in total or partial staphyloma of the cornea with hydrophthalmus. In this method the actual cautery is applied in the form of radiating lines running from the center of the cornea to the limbus, while the anterior chamber is evacuated by puncturing the cornea at the center. Very little reaction is produced, and the operation may be repeated several times, until the eyeball is

reduced to normal dimensions. He considers it preferable to enucleation, which in this case is an unnecesary mutilation, and also to keratectomy, because it reduces the eye to normal size and shape. Subsequent tattooing will give it a normal appearance, while keratectomy requires the wearing of an artificial eye over the stump. He has used it also with success in a painful glaucomatous eye.

Intra-Ocular Tuberculosis. Dangers of Enucleation.—Rogman (*Annales d'Oculistique*, August, 1903,) has collected nine cases of intra-ocular tuberculosis in which enucleation was followed by meningitis and death, and two in which there was a local recurrence. Two of the cases were under his own observation, and he was able to make microscopical examinations of the affected eyeballs. In none of the cases examined was the sclera found free from involvement; sometimes there was a simple ectasis, but in other cases it was perforated. Rogman believes, while it is possible that the meningitis might have been a coincident condition, or that it was the result of migration of the tubercular process before the operative interference, that a third theory is also possible, viz., that the operation itself was the direct cause of the transportation of the germs from the eye to the brain. The fact that the sclera was involved in all cases would render possible the absorption of the tuberculous material by the open wound from the colonies opened by the operation. Therefore enucleation is not to be looked upon in every case as an operation free from danger, and we must consider certain contraindications which arise as soon as the microörganisms have passed beyond the limits of the eyeball, either along the optic nerve or through the sclera. In the latter case, examination has shown that it is not necessary to have perforation of the sclera, but only simple ectasis. Of course, those that occur in the anterior part of the eyeball are readily detected, but this is not true when the posterior part is affected. Hence operation should not be delayed until the tissues become disorganized. Rogman believes that if the eyeball is already perforated, enucleation should be performed only when the ectasis is recent, and situated near the cornea, so that the conjunctiva can be left adherent to the eye, some distance back of the staphyloma. In all other cases the more radical operation of exenteration of the orbit should be performed.

The Composition of the Aqueous Humor in Cases of Senile Cataract.—Uribe-Troncoso (*Annales d'Oculistique*, August, 1903), as the result of chemical analyses in nine cases of senile cataract, reaches the following conclusions:

1. The quantity of albumin in the aqueous humor does not increase during the formation of cataract, as has been believed.

2. In commencing nuclear cataracts he found a considerable increase in the saline components of the aqueous which did not occur in a commencing cortical cataract.

3. When the cataract is mature, the composition of the aqueous approaches the normal.

4. In hypermature cataract, analysis has shown an increase in the proportion of the organic constituents.

5. As two distinct physical stages exist during the formation of cataract, one of absorption of water and intumescence, and the other of loss of water and contraction, we can not admit that the increase in the quantity of the salt in the aqueous is the cause of the opacification in the first stage, for the osmotic current is always directed toward the medium which contains the most salt.

6. The remarkable increase in the proportion of saline constituents of the aqueous in two cases of commencing cataract leads us to believe that during the period of incipient cataract a removal of water is produced and a rapid dessication of the nucleus, and that when the nucleus contracts, cataractous changes appear in the perinuclear zone.

NOTES AND NEWS.

ITEMS FOR THIS DEPARTMENT SHOULD BE SENT TO
DR. BROWN PUSEY, 31 WASHINGTON ST., CHICAGO.

Prof. Ricardo Secondi, Genoa, Italy, died recently.

Prof. E. Pflueger, Berne, died September 28, aged fifty-seven.

Drs. Robert Sattler and D. T. Vail have been elected oculists to the Cincinnati City Hospital.

Dr. L. R. Culbertson has removed his offices to rooms 226-228 Masonic Temple building, Zanesville, Ohio.

Dr. Christian R. Holmes has resigned from the commission appointed to build the new city hospital of Cincinnati.

Dr. William A. Mann has been elected assistant clinical professor of ophthalmology and otology in the Northwestern University.

Dr. F. Gurney Stubbs was elected a professor of otolaryngology in the Chicago Eye, Ear, Nose and Throat College, October 9, 1903.

A series of editorials on "Some Mimicries of Eye Strain," by G. de Schweinitz, were begun in the *New York Medical Journal* and *Philadelphia Medical Journal,* of November 7, 1903.

The Ramsey County Medical Society has passed a resolution urging the St. Paul, (Minn.) School Board to prohibit pupils suffering from trachoma or any other infectious diseases of the eyes from attending the public schools.

To Test Eyes.—Henry Phipps, Jr., has sent $350 to the First Ward Manual Training School, Allegheny, with a suggestion that the money be used in the examination of the eyes of the school children. He will add to his contribution a sufficient amount to secure treatment and the procuring of glasses for those who are found to need them.

Mr. George Lawson, consulting surgeon, Royal London Ophthalmic Hospital, died on October 12, in his seventy-third year. Of him the *London Lancet*, October 24, 1903, which has an extensive obituary

notice, says: "By the death of Mr. George Lawson the profession not only loses a most distinguished surgeon, but a most generous, large-hearted man, who was the true type of a Christian gentleman."

In an editorial in the Chicago *Record-Herald,* of September 28, 1903, we are told that "tobacco endlyopia and alcohol endlyopia" were recognized by oculists as diseases "the most insidious and difficult with which they have to deal," and "eye specialists unite in declaring that if endlyopia maintains its present ratio of increase it will not be more than a quarter of a century before it will be one of the common eye troubles."

Simon Pollak, M. D., University of Vienna, Austria, 1835, the oldest practitioner of St. Louis, a member of the American Medical Association, one of the founders of the Missouri State School for the Blind, who opened in 1861 the first eye and ear clinic west of the Mississippi, died at his home in St. Louis October 31, aged ninety. During the civil war he served on the United States Sanitary Commission. He was many times treasurer and once president of the St. Louis Medical Society. Dr. Pollak was one of the quartet of St. Louis veteran physicians, in whose honor a banquet was given by the medical profession of the city on April 14 last.—*Journal American Medical Association,* November 14, 1903.

The following is from *McClure's Magazine* for November, 1903, page 9. It will be noticed that the author, Cleveland Moffett, shifts the responsibility: "It is possible," said M. Curie, "that this property of radium may be utilized in certain diseases of the eye. Dr. Emile Javal, one of our distinguished physicians, who is blind himself, has given this matter particular attention, and he thinks that radium may offer a precious means of diagnosis in cases of cataract by showing whether the retina is or is not intact, and whether an operation will succeed. If a person blind from cataract can see the radium light as you have just seen it, then the eyesight of that person may be restored by removing the cataract. Otherwise it can not be restored."

In *The Outlook,* September 5, 1903, Frank H. Spearman, in an article on the "Life of a Locomotive Engineer," says: "Such a prosaic matter as taking water is a simple one in a fireman's duties. But let

us suppose that on a stormy winter day the spout chains are frozen, the train late and engineer impatient. Under such circumstances, and with an apparatus not so modern as that shown in the picture, a fireman jerked at the spout chains until they broke and the heavy iron spout fell, striking him on the head. A year after glaucoma, following the blow on his head, attacked his right eye. He gave it no attention. Meantime, he was promoted to be an engineer. Telling no one, he held his post until he was stone blind in the right eye, and in that condition he actually ran a passenger engine month after month. During the interval he successfully took all the tests for vision and color blindness *in that eye;* it was unfairly done, of course, but done. The deadly disease at length, through sympathy, attacked the remaining eye and he resigned. He knew he could deceive the doctors with one blind eye, but not with two."

An extremely valuable and unique addition to the library of the College of Physicians has just been made through the generosity of Dr. George W. Norris, consisting of three volumes containing the collection of colored eye grounds made up of the original drawings and notes of Professor Eduard Jaeger, of Vienna, from which the well-known "Jaeger Atlas" was produced. The drawings were all made by Jaeger himself, and each of them represents an exact and careful copy of an eye ground appearance as seen by him. This collection was sold after Jaeger's death by order of his executors, and was purchased by the late Dr. William Fisher Norris, first professor of Ophthalmology at the University of Pennsylvania, for $2,400. Quite a storm of protest arose at the time from the medical profession in Vienna, who held that such valuable landmarks in the history of Viennese ophthalmology should not have been allowed to be taken from the Archives of the "Kaiserstadt." Dr. Norris has also presented one volume containing the collection of ophthalmologic drawings from cases seen in the practice of the late Dr. William Fisher Norris, 1873-1901. This volume is valued by the library at $800, which is, perhaps, about one-half of the amount paid by Dr. Norris to the artists. (*American Medicine,* Nov. 14, 1903.)

Julian J. Chisholm, M. D., Medical College of the State of South Carolina, Charleston, 1850, died at Petersburg, Va., November 2, aged seventy-three. After studying abroad, he began practicing in Charleston, and by his early recognized ability rose to the professor-

ship of surgery in 1858. In the civil war he obtained the first medical appointment, and also treated the first wounded in the war (at Fort Sumter). He was the author of "A Manual of Military Surgery," which was the official text-book of the confederate surgeons. He resumed his chair in 1865, but removed to Baltimore in 1869, and was at once made professor of operative surgery and diseases of the eye and ear in the School of Medicine of the University of Maryland. He was also dean of the faculty from 1869 to 1874. In 1873 he gave up surgery and devoted himself thenceforth exclusively to his specialty, in which he achieved an international reputation. He was a most prolific writer, a skillful operator and a man of extraordinary energy. He was a born teacher. He was chairman of the ophthalmologic section of the International Medical Congress of 1887. The great work of his life was the founding in 1877 of the Presbyterian Eye, Ear and Throat Hospital, of Baltimore, one of the largest special hospitals in the country. In 1894, shortly after a trip to Europe, he was stricken with apoplexy and asphasia, and his active work ceased. He then gradually failed until his death.—*Journal of Amer. Med. Association,* November 14, 1903.

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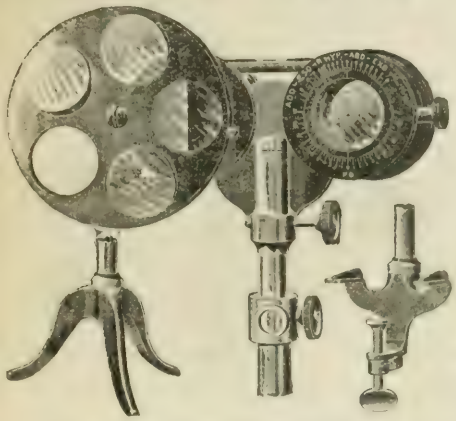

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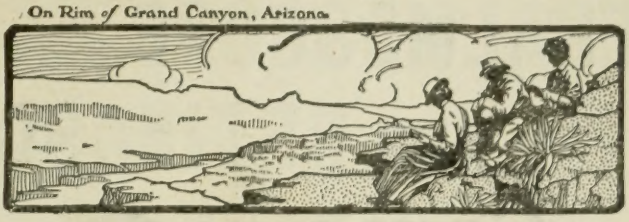

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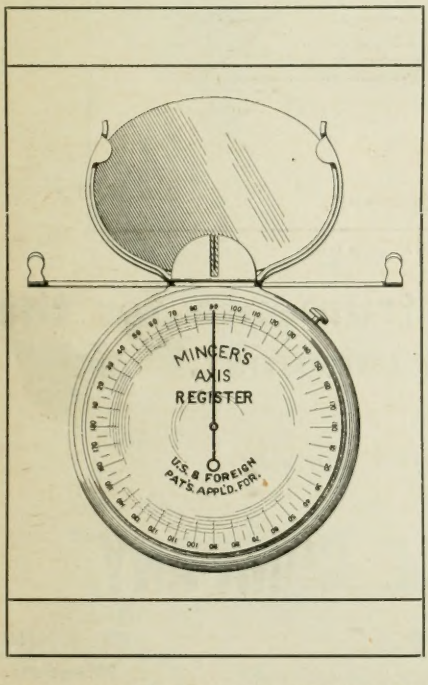

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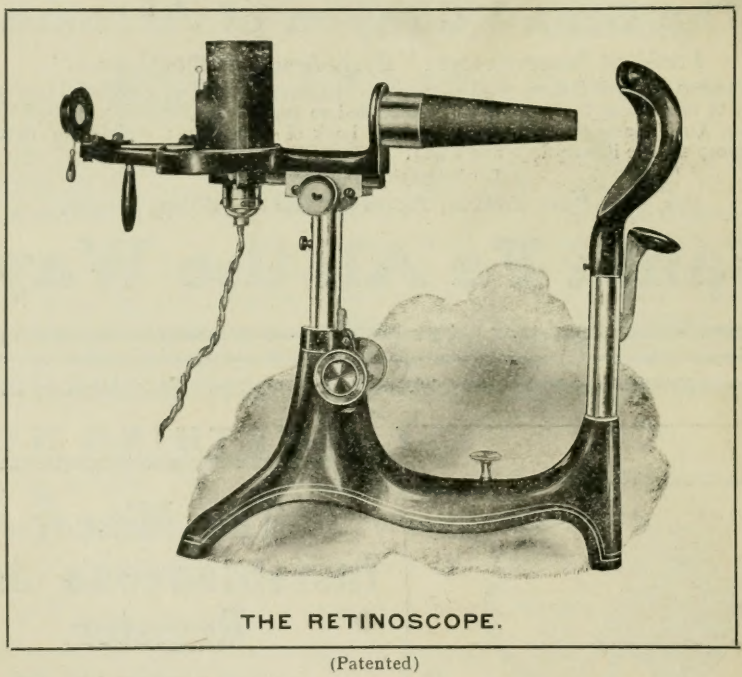

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